

SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: Lisa V. Cick Examiner #: 77134 Date: 4/14/00
 Art Unit: 1641 Phone Number 305-0508 Serial Number: 09/253,878
 Mail Box and Bldg/Rm Location: CR 11/7016 Results Format Preferred (circle): PAPER DISK E-MAIL

7E12

If more than one search is submitted, please prioritize searches in order of need.

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc., if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Recombinant biologically active human zone Pellucida proteins 3 (HZP3) to test male fertility
 Inventors (please provide full names): Ke-wen Ding, Sergio Aebinger, William E. Gibbons

Earliest Priority Filing Date: 2/19/98

For Sequence Searches Only* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search sequences:
 Seq ID No's 1 - 4

Point of Contact:
 Mona Smith
 Technical Info. Specialist
 CM1 12C14 Tel: 308-3278

Seq ID No. 1 is being claimed.

See attached claims, data sheet,
 relevant pages of specification, and

drawings

Thanks,
 Lisa C

STAFF USE ONLY

Type of Search

Vendors and cost where applicable

Searcher: <u>171-5M1T6</u>	NA Sequence (#)	STN	<u>#4945</u>
Searcher Phone #:	AA Sequence (#)	Dialog	
Searcher Location:	Structure (#)	Questel/Orbit	
Date Searcher Picked Up:	Bibliographic	Dr.Link	
Date Completed: <u>4-28-2000</u>	Litigation	Lexis/Nexis	
Searcher Prep & Review Time: <u>35</u>	Fulltext	Sequence Systems	
Clerical Prep Time:	Patent Family	WWW/Internet	
Online Time: <u>20</u>	Other	Other (specify)	

MP3 4/28

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(TM)

Release 3.1A John F. Collins, Biocomputing Research Unit.
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Mpsrch.PP protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Apr 28 14:27:17 2000; MasPar time 3.79 Seconds

Tabular output not generated.

Title: >US-09-252-828-1

Description:

Perfect Score:

Sequence:

1 SWFPVQGADICQCCNKGDCGTPSHRSRQPHVMSQWSRSVS 41

Scoring table:

PAM 150

Searched:

188963 seqs, 23686106 residues

Post-processing: Minimum Match 0% Listing first 45 summaries

Database:

a-geneseq36
1.geneseq

Statistics:

Mean 23.819; Variance 80.040; scale 0.298

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Result No.	Query Match	Length	DB ID	Description	Pred. No.	
1	301	92.6	R66552	Cynomolgus Monkey zona	2.30e-25	
2	301	92.6	W81820	M. cynomolgus ZPC prot	2.30e-25	
3	299	92.0	R2229	Human ZP3.	4.00e-25	
4	253	77.8	R53498	Marmoset ZP3.	1.29e-19	
5	213	65.5	R55199	Canine zona pellucida	6.81e-15	
6	213	65.5	R81809	Canine ZPC protein.	6.81e-15	
7	195	60.0	R60155	Feline zona pellucida	8.51e-13	
8	195	60.0	R47198	Feline zona pellucida	8.51e-13	
9	195	60.0	R5202	Feline zona pellucida	8.51e-13	
10	195	60.0	R81812	Feline ZPC protein.	8.51e-13	
11	172	52.9	R48068	CPP-3.	8.51e-13	
12	172	52.9	R07058	Mouse ZP3 gene product.	3.78e-12	
13	161	49.5	R96951	Partial porcine zona p	6.73e-09	
14	161	49.5	R4104	Pig ZP2-3.	6.73e-09	
15	161	49.5	R96950	Porcine zona pellucida	6.73e-09	
16	161	49.5	R55196	Porcine zona pellucida	6.73e-09	
17	161	49.5	R81806	Porcine ZPC protein.	6.73e-09	
18	156	48.0	R5205	Bovine zona pellucida	2.47e-08	
19	156	48.0	R81815	Bovine ZPC protein.	2.47e-08	
20	132	40.6	R422	Y01774	Brushtail Possum ZP-3	1.16e-05
21	131	40.3	R81807	Rabbit ZPC protein.	1.49e-05	
22	131	40.3	R55197	Rabbit zona pellucida	1.49e-05	
15	1	37.2	R63671	Human zona pellucida	3.1.83e-04	

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24 121 37.2 404 1 Y01773 Tammar wallaby ZP-3 pr
25 114 35.1 1 R36123 Zona pellucida protein
26 75 23.1 1 W36126 Zona pellucida protein
27 73 22.5 1 W07908 Pemphigus vulgaris ant
28 73 22.5 1 R30742 Human pemphigus vulgar
29 72 22.2 1 Y04123 Caspase activated nuclease
30 70 21.5 1 R69478 Addition sequence used
31 70 21.5 1 R90117 Human mature von Wille
32 67 20.6 1 R62671 Streptococcus pneumoniae
33 67 20.6 1 R05263 Chicken acetylcholine
34 66 20.3 1 R71200 Protein encoded by ORF
35 66 20.3 1 R88515 Chicken adenovirus typ
36 66 20.3 1 R87845 Caposis' sarcoma assoc
37 66 20.3 1 R93617 Caposis' sarcoma assoc
38 66 20.3 1 P50361 Human acetyl choline r
39 66 20.3 1 R30792 HSV-2 strain SBS Conti
40 66 20.3 1 R72200 HSV-2 strain SBS Conti
41 66 20.3 1 W72108 GST/GI transport reepr
42 65 20.0 1 R74125 Acetylcholine receptor
43 64 19.7 1 R36984 Acetylcholine receptor
44 64 19.7 1 R86421 Sequence of von Willeb
45 64 19.7 1 P60053

ALIGNMENTS

RESULT ID	1	RE6552 standard; Protein; 223 AA.
ID	RE6552	standard; Protein; 223 AA.
DT	03-FEB-1995	(first entry)
DE	Cynomolgus Monkey	Zona pellucida ZPC protein.
KW		Cynomolgus Monkey; zona pellucida; ZPC; immuncontraception.
OS		Macaca cynomolgus.
PN		W09411019-A.
PD		26-MAY-1994.
PF		06-NOV-1993; U10851.
PR		09-NOV-1992; US-933341.
PA		29-JAN-1993; US-122990.
PI		(ZONA-) ZONAGE INC.
Harris JD, Hsu KT, Podolski JS;		
DR		WPI: 94-183156/22.
DR		N-PSDB; Q79652.
PT		Use of zona pellucida proteins and antibodies - for inducing reproductive transient infertility or permanent sterility in female mammals.
PT		Example 12; page 132-133; 154PP; English.
CC		Cynomolgus monkey cDNA libraries were constructed in lambda gt10 using mRNA isolated from a set of ovaries collected from monkeys aged 1.5 and 2 years and a second set from monkeys aged 3, 4 and 14 years of age. The libraries were screened with probes encoding porcine ZPA, ZPB and ZPC proteins. Positive clones were analysed further by Southern hybridisation using the porcine probes. Clones encoding cynomolgus monkey ZPA, ZPB and ZPC proteins were identified (see Q79650-Q79652). Q79682 is the insert from the largest partial ZPC clone which contains just over 50% of the C-terminal portion of the full-length sequence and contains an ORF of 672pp; R66552 is the amino acid sequence deduced from the ORF.
CC		Sequence 223 AA;
CC		Query Match: 92.6%; Score: 301; DB 1; Length: 223; Best Local Similarity: 90.2%; Pred. No.: 2.30e-25; Indels: 0; Gaps: 0; Matches: 37; Conservative: 3; Mismatches: 1; Indels: 0; Gaps: 0;

RESULT

DB ID	107	SWFPVQGADICQCCNKGDCGTPSHRSRQPHVMSQWSRSVS 147
ID	W1820	standard; Protein; 223 AA.
AC	W1820	
DT	29-JAN-1999	(first entry)
DE	M. cynomolgus ZPC protein.	

KW ZPC: zona pellucida; infertility; sterility; immunocontraceptive;
 KW vaccine; monkey.
 OS Macaca cynomolgus.
 FH Location/Qualifiers
 FT Protein 1..223
 /label= ZPC
 /note= "Partial sequence, no start codon given"
 FT 17-NOV-1998.
 PN US5837497-A.
 PR 07-JUN-1995; 484993.
 PR 09-NOV-1993; US-149223.
 PR 09-NOV-1992; US-97341.
 PR 29-JAN-1993; US-012390.
 PR 07-JUN-1995; US-484993.
 PA (ZONA-) ZOMAGEN INC.
 PI Harris JD;
 DR WPI: 99-023447/02.
 DR N-PSDB: V64820.
 PT Isolated zona pellucida DNA from different mammals - used to develop products which can be used for vaccination to induce transient infertility or permanent sterility in female mammals.
 PS Example 12; Column 145-148; 84PP; English.
 CC This sequence represents a Macaca cynomolgus ZPC protein isolated from zona pellucida. This protein can be used in a method for specifically inducing transient infertility or permanent sterility in a host animal by selective vaccination with specific zona pellucida proteins or immunocontraceptively active fragments.

Query Match 92.5%; Score 301; DB 1; Length 223;
 Best Local Similarity 90.2%; Pred. No. 2; 30e-25; ID: R53498 standard; Protein: 424 AA.
 Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 107 SWFPVQGPADICQCCSKGDCGTPSHRSRQPHVMSRSAS 147
 Qy 1 SWFPVQGPADICQCCSKGDCGTPSHRSRQPHVMSRSVS 41

RESULT 3
 ID R22239 standard; Protein: 372 AA.
 AC R22239;
 DT 10-JUL-1992 (first entry)
 DE Human ZP3.
 KW zona pellucida; antigenic; epitopes; fertilisation; gametes;
 OS Homo sapiens.

FH Key Location/Qualifiers
 FT peptide 341..360
 /note= "antigenic epitope"
 FT 09203548-A.
 PD 05-MAR-1992.
 PF 13-AUG-1991; E01538.
 PR 27-AUG-1990; EP-202287.
 PA (AIKU) AK20 NV.
 PI Van Duin Mi;
 DR WPI; 92-056892/12.
 DR N-PSDB: Q22997.
 PT Human zona pellucida protein ZP3 and fragments - useful as contraceptive vaccines or diagnostic medical kits
 PS Claim 3; Fig 2; 32PP; English.
 The protein sequence was deduced from the nucleotide sequence of zona pellucida ZP3 cDNA, by screening a human genomic EMBL library, with a labelled ZP3 probe. The human gene was found to comprise 8 exons spread over 20 kb genomic DNA. cDNA clones were isolated and expressed in CHO cells. Elucidation of the ZP3 sequence will allow production of large amounts of the protein by recombinant techniques. The protein and derived polypeptides may be used to prepare an immunocontraception by either active or passive immunisation. The polypeptide and antibodies (and anti-idiotypic antibodies) directed to it may be useful in diagnostic kits.

Query Match 92.0%; Score 299; DB 1; Length 372;
 Query Match

Best Local Similarity 92.5%; Pred. No. 4.00e-25; ID: R53498 standard; Protein: 424 AA.
 Matches 37; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 DB 309 WFPVQGPADICQCCSKGDCGTPSHRSRQPHVMSRSAS 348
 KEY 2 WFPVQGPADICQCCSKGDCGTPSHRSRQPHVMSRSVS 41
 QY 1 WFPVQGPADICQCCSKGDCGTPSHRSRQPHVMSRSVS 41

RESULT 4
 ID R53498 standard; Protein: 424 AA.
 AC R53498;
 DT 02-NOV-1994 (first entry)
 DE Marmoset ZP3.
 KW zona pellucida; glycoprotein 3; sperm receptor; immunocontraceptive; diagnosis; tumour; autoimmune disease.
 OS Callithrix jacchus.
 PN WO941304-A.
 PR 11-MAY-1994.
 PR 29-OCT-1993; E03014.
 PR 02-NOV-1992; EP-310026.
 PA (AKZO) AKZO NOBEL NV.
 PI Aitken RJ; Koothan T;
 DR WPI: 94-167461/20.
 DR N-PSDB; Q63573.
 PT New polypeptide(s) with marmoset ZP3 activity - are useful as immuno-contraceptive vaccines and in diagnosis, also test system for contraceptive development.
 PS Claim 1; Page 15; 27PP; English.
 The marmoset ZP3 gene was isolated by PCR from total marmoset RNA using PCR primers corresponding to regions of the human ZP3 gene. (the sperm receptor) is useful as an immunocontraceptive and as a diagnostic reagent e.g. to detect sperm function, to monitor the effects of vaccination, for imaging follicles, to detect ZP3-related autoimmune disorders or ZP3-expressing tumours, or to screen for autoantibodies against ZP3.
 SQ Sequence 424 AA;

Query Match 77.8%; Score 253; DB 1; Length 424;
 Best Local Similarity 88.2%; Pred. No. 1.29e-19; ID: R55199 standard; Protein: 426 AA.
 Matches 30; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

Db 308 SWFPVQGPADICQCCSKGDCGTPSHRSRQPHVMS 341
 Qy 1 SWFPVQGPADICQCCSKGDCGTPSHRSRQPHVMS 34

RESULT 5
 ID R55199 standard; Protein: 426 AA.
 AC R55199;
 DT 31-JAN-1995 (first entry)
 DE Canine zona pellucida ZPC protein.
 KW Dog; canine; zona pellucida; ZPC; immunocontraception.
 OS Canis familiaris.
 KEY Location/Qualifiers
 FT protein 1..426
 FT /label= canine_ZPC
 FT WO9411019-A.
 PD 26-MAY-1994.
 PR 06-NOV-1993; U100851.
 PR 09-NOV-1992; US-973341.
 PR 29-JAN-1993; US-012390.
 PA (ZONA-) ZOMAGEN INC.
 PI Harris JD; Hsu KT; Podolski JS;
 DR WPI; 94-18315/22.
 DR N-PSDB; Q65650.
 PT Use of zona pellucida proteins and antibodies - for inducing reproducible transient infertility or permanent sterility in female mammals.
 PS Claim 40; Page 92-93; 154PP; English.
 A commercially available 16 week old canine ovarian cDNA expression library in lambda gt11 was screened using antibodies raised against heat soluble canine zona pellucida. The largest candidate clone was used to rescreen the library and to isolate clones which were

CC used as probes in Southern hybridisations. Sequences coding for canine ZFA and ZPC proteins were obtained (Q55608 and Q55609, respectively). R55199 is the deduced amino acid sequence for ZPC Sequence 426 AA; SQ

Subfragments of FZP-3 can also be used, esp. comprising amino acids 106-339 of FZP-3 (R60165). The sequence in this region shows substantial homology to the mouse zona pellucida protein.

	Query	Subject	Score	Length	Wt
Best Local	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS	60.0%	63.0	115	420
Similarity	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS	60.0%	63.0	115	420
Matches	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS	24;	24	9	0
Conservative	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS			9	0
Mismatches	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS			7	0
Indels	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS			0	0
Gaps	WFPVQGADICQCCNKGDCGTPSHSRQPHMSWSRSVS			0	0

	Best Local Similarity	Score	Length	Matches	Mismatches	Indels	Gaps
Db	WFPVEGPRADICNCNKGSCLGQGRSWRLSHLRPHWKMAS	241	201	22;	Conservative	7;	No
Qy	WFPVQGPADICOCCKNGDGTGPTSHSRROPHMSQWSRSWS	41	155;	22;		0;	0;

RESULT 8
 ID R47198 standard; Protein; 424 AA.
 AC R47198; 1994 (first entry)
 DT 09-SEP-1994
 DE Feline zona pellucida FZP-3
 CC Cat; feline zona pellucida; FZP-3; antigen; contraceptive vaccine.
 KW felis sp.
 PN J06011784-A.
 PD 25-JAN-1994.
 PF 27-NOV-1992; 341429.
 PR 29-NOV-1991; JP-342317.
 PA (TOFU) TONEN CORP.
 DR WPI; 94-061479/08.
 PT N-PSDB; Q56041.
 DNA encoding cat zona pellucida FZP-3 - useful as antigen in
 contraceptive vaccine and for sterilisation
 PS Claim 1; Page 10-12; 19pp; Japanese.
 CC The feline zona pellucida protein can be used as an antigen in the
 preparation of contraceptive vaccines for cats.
 SQ Sequence 424 AA;

	Query	Match	Score	DB	Length
ID	R55202	standard; Protein;	195	1	424
AC	R55202;	Similarity	55.0%	Pred.	No. 8.5e-13;
DT	01-FEB-1995	Matches	7;	Mismatches	11;
DE	Feline zona pellucida ZPC protein.	Indels	0;	Gaps	0;
OS	Cat; feline; zona pellucida; ZPC; immunocontraception.				
OS	felis domesticus				
FR	Location/Qualifiers				
FT	protein				
FT		1..424			
PN	WQ9411019-A.				
PD	26-MAY-1994.				
PF	06-NOV-1993; U10851.				
PR	09-NOV-1992; US-073341.				
PR	29-JAN-1993; US-012990.				
PA	(ZONA-) ZONAGEN INC.				
PI	Harris JD, Hsu KT, Podolski JS;				
DR	WPI; 94-183156/22.				
N-PSDB	Q56041.				
PR	Use of zona pellucida proteins and antibodies - for inducing reproducible transient infertility or permanent sterility in female mammals				
PS	Claim 40; Page 105-106; 15pp; English.				
CC	A cDNA library was prepared in lambda gt10 from mRNA isolated from ovaries of 3-4 month old cats. Plaques were screened using a mixture of probes encoding porcine ZPA, ZPB and ZPC proteins. Positive clones were analysed further by Southern hybridization using the porcine probes and clones encoding feline ZPA, ZPB and ZPC proteins were identified. The deduced amino acid sequence				

CC (R55202) from the feline ZPC clone was approximately 70% homologous to canine ZPC protein.

CC Sequence 424 AA;

SQ Query Match Best Local Similarity 55.0%; Score 195; DB 1; Length 426; Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;

Db 307 WFPVEGSDADICNCNKGSCGQGRSRWLSHUDRPRWHMAS 346
Qy 2 WFPVQGPADICQCNCKGDCGTPSHSRQPHMSQWSRSVS 41

RESULT 10

ID W1812 standard; Protein; 424 AA.

AC W1812;

DT 29-JAN-1999 (first entry)

DE Feline ZPC protein.

KW ZPC; zona pellucida; infertility; sterility; immunocontraceptive; vaccine; feline.

OS Relis SP.

PN US583497-A.

PD 17-NOV-1998.

PF 07-JUN-1995; 484993.

PR 09-NOV-1993; US-149223.

PR 29-JAN-1993; US-973341.

PR 07-JUN-1995; US-484993.

PA (ZONA-) ZONAGEN INC.

PI Harris JD.

DR WPI; 99-023447/02.

DR N-PSDB; V64794.

PT Isolated zona pellucida DNA from different mammals - used to develop products which can be used for vaccination to induce transient

PT infertility or permanent sterility in female mammals

PS Claim 5; Column 99-102; 8App; English.

CC This sequence represents a feline ZPC protein isolated from zona

CC pellucida. This protein can be used in a method for specifically

CC inducing transient infertility or permanent sterility in a host

CC animal by selective vaccination with specific zona pellucida proteins

CC or immunocontraceptively active fragments.

CC Sequence 424 AA;

CC N-PSDB; V64794.

PT

PS

CC

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TELECOMMUNICATION INFORMATION:
 CC TELEPHONE: (212) 758 4800
 CC FAX: (212) 751-6849
 CC TELEX: 421792
 CC INFORMATION FOR SEQ ID NO: 7:
 CC SEQUENCE CHARACTERISTICS:
 CC LENGTH: 424
 CC TYPE: amino acid
 CC STRANDEDNESS: single
 CC TOPOLOGY: unknown
 CC MOLECULE TYPE: protein
 CC ORIGINAL SOURCE:
 CC ORGANISM: human
 CC STRAIN:
 CC INDIVIDUAL ISOLATE:
 CC DEVELOPMENTAL STAGE:
 CC HAPLOTYPE:
 CC NAME/KEY: ZP3
 CC LOCATION:
 CC IDENTIFICATION METHOD:
 CC OTHER INFORMATION: human ZP3 protein
 CC SEQUENCE: 424 AA; 47028 MW; 954880 CN;
 Query Match 96.6%; Score 314; DB 1; Length 424;
 Best Local Similarity 95.1%; Pred. No. 1.37e-25; 1; Mismatches 39; Conservatve 1; Indels 0; Gaps 0;
 Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 Db 308 SWFPVQGPADICQCCCNKGDCGTPSHSRQPHMSQWSRSAS 348
 Qy 1 SWFPVQGPADICQCCCNKGDCGTPSHSRQPHMSQWSRSVS 41

RESULT 4
 ID US-08-484-158B-61 STANDARD: PRT; 424 AA.
 CC XX
 DE Sequence 61, Application US/0844158B
 CC Sequence 61, Application US/0844158B
 CC Patent No. 5976545
 CC GENERAL INFORMATION:
 APPLICANT: Harris Ph.D., Jeffrey D.
 APPLICANT: Hsu, Kuang T.
 APPLICANT: Podolski, Joseph S.
 TITLE OF INVENTION: Pharmaceutical Compositions for
 NUMBER OF SEQUENCES: 61
 CORRESPONDENCE ADDRESS:
 ADDRESS: Marshall, O'Toole, Gerstein, Murray &
 ADDRESS: Bornn
 STREET: 6300 Sears Tower, 233 South Wacker Drive
 CITY: Chicago
 STATE: Illinois
 COUNTRY: United States of America
 ZIP: 60605-6402
 COMPUTER READABLE FORM:
 MEDIUM TYPE: Floppy disk
 COMPUTER: IBM PC Compatible
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: Patentin Release #1.0, version #1.25
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/484,158B
 FILING DATE: 07-JUNE-95
 CLASSIFICATION: 514
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US 07/930,462

RESULT 5
 ID US-08-862-903-7 STANDARD: PRT; 424 AA.
 CC XX
 DE Sequence 7, Application US/08862903
 CC Sequence 7, Application US/08862903
 CC Patent No. 5916768
 CC GENERAL INFORMATION:
 APPLICANT: DEAN, JURRIEN
 APPLICANT: DEAN, JURRIEN
 TITLE OF INVENTION: CONTRACEPTIVE VACCINE
 TITLE OF INVENTION: BASED ON ALLOIMMUNIZATION WITH ZONA PELLUCIDA
 TITLE OF INVENTION: POLYPEPTIDES
 NUMBER OF SEQUENCES: 12
 CORRESPONDENCE ADDRESS:
 ADDRESSEE: MORGAN & FINNEGAN
 STREET: 345 PARK AVENUE
 CITY: NEW YORK
 STATE: NEW YORK
 COUNTRY: USA
 ZIP: 10154
 COMPUTER READABLE FORM:
 MEDIUM TYPE: FLOPPY DISK
 COMPUTER: IBM PC COMPATIBLE
 OPERATING SYSTEM: PC-DOS/MS-DOS
 SOFTWARE: WORDPERFECT 5.1
 CURRENT APPLICATION DATA:
 APPLICATION NUMBER: US/08/862,903
 FILING DATE: 30-May-1995
 CLASSIFICATION: 424
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US 08/038,948
 FILING DATE: 26-MAR-1993
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: US 07/930,462

APPLICATION NUMBER: 08/149,223
 FILING DATE: 09-NOV-93
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 08/012,990
 FILING DATE: 29-JAN-93
 PRIOR APPLICATION DATA:
 APPLICATION NUMBER: 07/973,341
 FILING DATE: 09-NOV-92
 ATTORNEY/AGENT INFORMATION:
 NAME: Clough, David W.
 REGISTRATION NUMBER: 36,107
 REFERENCE/DOCKET NUMBER: 32794
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: 312/474-6653
 TELEFAX: 312/474-0448
 TELE: 25-3856
 INFORMATION FOR SEQ ID NO: 61:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 424 amino acids
 TYPE: amino acid
 TOPOLOGY: linear
 MOLECULE TYPE: protein
 DESCRIPTION: "desc ="
 DESCRIPTION: deduced amino acid sequence of human ZPCⁿ
 SEQUENCE: 424 AA; 47028 MW; 954880 CN;
 Query Match 96.6%; Score 314; DB 2; Length 424;
 Best Local Similarity 95.1%; Pred. No. 1.37e-25; 1; Mismatches 39; Conservatve 1; Indels 0; Gaps 0;
 Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 Db 308 SWFPVQGPADICQCCCNKGDCGTPSHSRQPHMSQWSRSAS 348
 Qy 1 SWFPVQGPADICQCCCNKGDCGTPSHSRQPHMSQWSRSVS 41

FILING DATE: 20-AUG-1992
 PRIORITY APPLICATION DATA:
 APPLICATION NUMBER: US 07/364,379
 FILING DATE: 12-JUN-1989
 ATTORNEY/AGENT INFORMATION:
 NAME: DOROTHY R. AUTH
 REGISTRATION NUMBER: 36,434
 REFERENCE/DOCKET NUMBER: 2026-4032 US44
 TELECOMMUNICATION INFORMATION:
 TELEPHONE: (212) 758-4800
 TELEFAX: (212) 751-6049
 TELEX: 421792
 INFORMATION FOR SEQ ID NO: 7:
 SEQUENCE CHARACTERISTICS:
 LENGTH: 424
 TYPE: amino acid
 STRANDEDNESS: single
 TOPOLOGY: unknown
 MOLECULE TYPE: protein
 ORIGINAL SOURCE:
 ORGANISM: human
 STRAIN:
 INDIVIDUAL ISOLATE:
 DEVELOPMENTAL STAGE:
 HAPLOTYPE:
 TISSUE TYPE:
 CELL TYPE:
 CELL LINE:
 ORGANELLE:
 FEATURE:
 NAME/KEY: ZP3
 LOCATION:
 IDENTIFICATION METHOD:
 OTHER INFORMATION: human ZP3 protein
 SEQUENCE: 424 AA; 47028 MW; 954830 CN;
 Query Match 96.6%; Score 314; DB 2;
 Best Local Similarity 95.1%; pred. No. 1. 37e-255
 Matches 39; Conservative 1; Mismatches -
 Db 308 SVPVGPAGDICOCCNKGDCGTPSHSRQPHVMSQWSRSAS
 Qy 1 SWEPVQGPADICOCCKNGDCGTPSHSRQPHVMSQWSRSAS

RESULT	ID	US-08-484-993B-49	STANDARD:	PRT;	223
	DE	XX			
	CC	AC			
	CC	xxxxxx			
DE	Sequence 49, Application US/08484993B				
CC	Sequence 49, Application US/08484993B				
CC	Patent No. 5837497				
GENERAL INFORMATION:					
APPLICANT:	Harris Ph.D., Jeffrey D.				
APPLICANT:	Hsu, Kuang T.				
APPLICANT:	Podolski, Joseph S.				
TITLE OF INVENTION:	Materials and Methods				
NUMBER OF SEQUENCES:	59				
CORRESPONDENCE ADDRESS:					
ADDRESSEE:	Marshall, O'Toole, Gerstein,				
STREET:	6300 Sears Tower, 233 South Wacker				
CITY:	Chicago				
STATE:	Illinois				
COUNTRY:	United States of America				
LIP:	60566-6402				
COMPUTER READABLE FORM:					
MEDIUM TYPE:	FLOPPY disk				
COMPUTER:	IBM PC compatible				
OPERATING SYSTEM:	PC-DOS/MS-DOS				

CC CURRENT APPLICATION DATA:
 CC APPLICATION NUMBER: US/08/484,993B
 CC FILING DATE: 09-NOV-1993
 CC CLASSIFICATION: 424
 CC PRIORITY APPLICATION DATA:
 CC APPLICATION NUMBER: 08/012,990
 CC FILING DATE: 29-JAN-1993
 CC PRIORITY APPLICATION DATA:
 CC APPLICATION NUMBER: 07/973,341
 CC FILING DATE: 09-NOV-1992
 CC ATTORNEY/AGENT INFORMATION:
 CC NAME: Clough, David W.
 CC REGISTRATION NUMBER: 36,107
 CC REFERENCE/DOCKET NUMBER: 31745
 CC TELECOMMUNICATION INFORMATION:
 CC TELEPHONE: 312/474-6653
 CC TELEFAX: 312/474-0448
 CC TELEX: 25-3826
 CC INFORMATION FOR SEQ ID NO: 49:
 CC SEQUENCE CHARACTERISTICS:
 CC LENGTH: 223 amino acids
 CC TYPE: amino acid
 CC TOPOLOGY: linear
 CC MOLECULE TYPE: protein
 CC SEQUENCE 223 AA; 24553 MW; 266656 CN;
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 Query Match
 Best Local Similarity 92.6%; Score 301; DB 2; Length 223;
 Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;
 Db 107 SWPVEGEGADICOCCKSKDCGTPSHSRQPHVYWSISAS 147
 Qy 1 SWPVPGDAPICQCCNKGDCGTPSHSRQPHVYWSISAS 41

RESULT	7			
ID	US-08-484-158B-49	STANDARD;	PRT;	223 AA.
XX	XXXXXX			
AC				
XX				
DT				
XX				
DE	Sequence 49, Application US/08484158B			
XX	Sequence 49, Application US/08484158B			
CC	PATENT NO. 5,976,545			
CC	GENERAL INFORMATION:			
CC	APPLICANT: Harris, Ph.D., Jeffrey D.			
CC	APPLICANT: Hsu, Kuang T.			
CC	APPLICANT: Podolski, Joseph S.			
CC	TITLE OF INVENTION: Pharmaceutical Compositions for			
CC	NUMBER OF SEQUENCES: 61			
CC	CORRESPONDENCE ADDRESS:			
CC	ADDRESSEE: Marshall, O'Toole, Gerstein, Murray &			
CC	STREET: 6300 Sears Tower, 233 South Wacker Drive			
CC	CITY: Chicago			
CC	STATE: Illinois			
CC	COUNTRY: United States of America			
ZIP:	60606-6402			
CC	COMPUTER READABLE FORM:			
CC	MEDIUM TYPE: floppy disk			
CC	COMPUTER: IBM PC compatible			
CC	OPERATING SYSTEM: PC-DOS/MS-DOS			
CC	SOFTWARE: Patent Release #1.0, Version #1.25			
CC	CURRENT APPLICATION DATA:			
CC	APPLICATION NUMBER: US/08/484,158B			
CC	FILING DATE: 07-JUNE-95			
CC	CLASSIFICATION: 514			
CC	PRIOR APPLICATION DATA:			
CC	APPLICATION NUMBER: 08/1419			

CC SEQUENCE CHARACTERISTICS:
 LENGTH: 223 amino acids
 CC TYPE: amino acid
 CC TOPOLOGY: linear
 CC MOLECULE TYPE: protein
 SQ SEQUENCE 223 AA; 24553 MW; 266656 CN;
 Query Match 92.6%; Score 301; DB 2; Length 223;
 Best Local Similarity 90.2%; Pred. No. 4.11e-24; 3; Mismatches 1; Indels 0; Gaps 0;
 Matches 37; Conservative 37; Mismatches 1; Indels 0; Gaps 0;
 Db 107 SWEPVQGPADICQCCKGCGTSPHSRRQPHVMSQWSRSVS 41
 Qy 1 SWEPVQGPADICQCCKGCGTSPHSRRQPHVMSQWSRSVS 41

RESULT 10
 ID US-08-484-596A-12 STANDARD; PRT; 426 AA.
 XX AC XXXXXX
 XX DT XXXXXXXX
 DE Sequence 12, Application US/08484596A
 CC Sequence 12, Application US/08484596A
 CC Patent No. 5981228
 CC GENERAL INFORMATION:
 CC APPLICANT: Harris Ph.D., Jeffrey D.
 CC APPLICANT: Hsu, Kuang T.
 CC APPLICANT: Podolski, Joseph S.
 CC TITLE OF INVENTION: Materials and Methods for Immunocontraception
 CC NUMBER OF SEQUENCES: 59
 CC ADDRESSEES: Mars Hall, O'Toole, Gerstein, Murray & Borun
 CC STREET: 6300 Sears Tower, 233 South Wacker Drive
 CC CITY: Chicago
 CC STATE: Illinois
 CC ZIP: 60606-6402
 CC COUNTRY: United States of America
 CC COMPUTER READABLE FORM:
 CC COMPUTER: IBM PC compatible
 CC OPERATING SYSTEM: PC-DOS/MS-DOS
 CC SOFTWARE: Patentin Release #1.0, Version #1.25
 CC CURRENT APPLICATION DATA:
 CC APPLICATION NUMBER: US/08/484,596A
 CC FILING DATE: 09-NOV-1992
 CC CLASSIFICATION:
 CC ATTORNEY/AGENT INFORMATION:
 CC NAME: Clough, David W.
 CC FILING DATE: 11-NOV-1993
 CC PRIORITY APPLICATION DATA:
 CC APPLICATION NUMBER: 07/973,341
 CC FILING DATE: 09-NOV-1992
 CC TELECOMMUNICATION INFORMATION:
 CC TELEPHONE: 312/474-6653
 CC TELEX: 25-3856
 CC INFORMATION FOR SEQ ID NO: 12:
 CC) SEQUENCE CHARACTERISTICS:
 CC LENGTH: 426 amino acids
 CC TYPE: amino acid
 CC TOPOLOGY: linear
 CC MOLECULE TYPE: protein
 SQ SEQUENCE ,426 AA; 47367 MW; 972293 CN;
 Query Match 65.5%; Score 213; DB 2; Length 426;
 Best Local Similarity 60.0%; Pred. No. 3.05e-14; 9; Mismatches 7; Indels 0; Gaps 0;
 Matches 24; Conservative 24; Mismatches 7; Indels 0; Gaps 0;
 Db 307 WIVVEGSDADICRCCKGCGTSPHSRRQPHVMSQWSRSVS 346
 Qy 2 WEPVQGPADICQCCKGCGTSPHSRRQPHVMSQWSRSVS 346

RESULT 11
 ID US-08-480-150A-12 STANDARD; PRT; 426 AA.
 XX AC XXXXXX
 XX DT XXXXXXXX
 DE Sequence 12, Application US/08480150A
 CC Sequence 12, Application US/08480150A
 CC Patent No. 5989550
 CC GENERAL INFORMATION:
 CC APPLICANT: Harris Ph.D., Jeffrey D.
 CC APPLICANT: Hsu, Kuang T.
 CC APPLICANT: Podolski, Joseph S.
 CC TITLE OF INVENTION: Materials and Methods for Immunocontraception
 CC NUMBER OF SEQUENCES: 59
 CC CORRESPONDENCE ADDRESS:
 CC ADDRESS: Mars Hall, O'Toole, Gerstein, Murray & Borun
 CC STREET: 6300 Sears Tower, 233 South Wacker Drive
 CC CITY: Chicago
 CC STATE: Illinois
 CC ZIP: 60606-6402
 CC COUNTRY: United States of America
 CC COMPUTER READABLE FORM:
 CC COMPUTER: IBM PC compatible
 CC OPERATING SYSTEM: PC-DOS/MS-DOS
 CC SOFTWARE: Patentin Release #1.0, Version #1.25
 CC CURRENT APPLICATION DATA:
 CC APPLICATION NUMBER: US/08/480,150A
 CC FILING DATE: 07-JUN-1995
 CC CLASSIFICATION: 424
 CC PRIOR APPLICATION DATA:
 CC APPLICATION NUMBER: 08/149,223
 CC FILING DATE: 09-NOV-1993
 CC APPLICATION NUMBER: 08/012,990
 CC FILING DATE: 29-JAN-1993
 CC PRIOR APPLICATION DATA:
 CC APPLICATION NUMBER: 07/973,341
 CC FILING DATE: 09-NOV-1992
 CC ATTORNEY/AGENT INFORMATION:
 CC NAME: Clough, David W.
 CC REGISTRATION NUMBER: 36,107
 CC REFERENCE/DOCKET NUMBER: 31745
 CC TELECOMMUNICATION INFORMATION:
 CC TELEPHONE: 312/474-6653
 CC TELEX: 25-3856
 CC INFORMATION FOR SEQ ID NO: 12:
 CC) SEQUENCE CHARACTERISTICS:
 CC LENGTH: 426 amino acids
 CC TYPE: amino acid
 CC TOPOLOGY: linear
 CC MOLECULE TYPE: protein
 SQ SEQUENCE ,426 AA; 47367 MW; 972293 CN;
 Query Match 65.5%; Score 213; DB 2; Length 426;
 Best Local Similarity 60.0%; Pred. No. 3.05e-14; 9; Mismatches 7; Indels 0; Gaps 0;

RESULT 12
 ID US-08-484-158B-12 STANDARD; PRT; 426 AA.
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 AC XXXXXX
 DT Sequence 12, Application US/08484158B
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 DE Sequence 12, Application US/08484993B
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 AC Sequence 12, Application US/08484993B
 CC Patent No. 583797
 CC GENERAL INFORMATION:
 CC APPLICANT: Harris Ph.D., Jeffrey D.
 CC APPLICANT: Hsu, Kuang T.
 CC APPLICANT: Podojski, Joseph S.
 CC TITLE OF INVENTION: Pharmaceutical Compositions for
 CC NUMBER OF SEQUENCES: 61
 CC CORRESPONDENCE ADDRESS:
 CC ADDRESSEE: Marshall, O'Toole, Gerstein, Murray &
 CC STREET: 6300 Sears Tower, 233 South Wacker Drive
 CC CITY: Chicago
 CC STATE: Illinois
 CC COUNTRY: United States of America
 CC ZIP: 60605-6402
 CC COMPUTER READABLE FORM:
 CC MEDIUM TYPE: Floppy disk
 CC COMPUTER: IBM PC compatible
 CC OPERATING SYSTEM: PC-DOS/MS-DOS
 CC SOFTWARE: Patentin Release #1.0, Version #1.25
 CC CURRENT APPLICATION DATA:
 CC APPLICATION NUMBER: US/08/484,158B
 CC FILING DATE: 07-JUNE-95
 CC CLASSIFICATION: 514
 CC PRIOR APPLICATION DATA:
 CC APPLICATION NUMBER: 08/149, 223
 CC FILING DATE: 09-NOV-93
 CC PRIOR APPLICATION DATA:
 CC APPLICATION NUMBER: 08/012, 990
 CC FILING DATE: 29-JAN-93
 CC REGISTRATION NUMBER: 36,107
 CC FILING DATE: 29-JAN-93
 CC PRIOR APPLICATION DATA:
 CC APPLICATION NUMBER: 07/973, 341
 CC FILING DATE: 09-NOV-92
 CC ATTORNEY/AGENT INFORMATION:
 CC NAME: Clough, David W.
 CC REFERENCE/DOCKET NUMBER: 31745
 CC TELEPHONE: 312/474-6653
 CC TELEFAX: 312/474-0448
 CC INFORMATION FOR SEQ ID NO: 12:
 CC
 CC SEQUENCE CHARACTERISTICS:
 CC LENGTH: 426 amino acids
 CC TYPE: amino acid
 CC MOLECULE TYPE: protein
 CC TOPOLOGY: Linear
 CC
 SQ SEQUENCE 426 AA; 47367 MW; 972293 CN;
 SQ Query Match 65.5%; Score 213; DB 2; Length 426;
 Best Local Similarity 60.0%; Pred. No. 3.05e-14;
 Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;
 AC XXXXXX
 DT Sequence 18, Application US/08484993B
 XX
 DE Sequence 18, Application US/08484993B
 XX
 AC Sequence 18, Application US/08484993B
 CC Patent No. 583797
 CC GENERAL INFORMATION:
 CC APPLICANT: Harris Ph.D., Jeffrey D.
 CC
 RESULT 13
 ID US-08-484-993B-12 STANDARD; PRT; 426 AA.
 XX
 AC XXXXXX
 Db 307 WYPVPGSADICRCNCNKGSCGPGRSRRLSHLRLGRWRKVS 346
 QY 1 :
 2 WFPVQGPADICOCNKGDGTGTPSHSRQPHVMSQWSRSVS 41


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1-22
23-424
45-301
SUMMARY
Query Match
Best Local Similarity 96.6%; Score 314; DB 1; Length 424;
Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
Qy 1 SWFPVQGPADICQCCNKGDCGTPSHSRQPHVMQSWSRSVS 41

RESULT 2
ENTRY A56844 #type complete
TITLE POM-ZP3 protein - human
ORGANISM #formal_name Homo sapiens #common_name man
DATE 19-Oct-1995 #sequence_revision 19-Oct-1995 #text_change
17-Mar-1999
ACCESSIONS A56844
REFERENCE #authors Kipersztok, S.; Osawa, G.A.; Liang, L.; Modi, W.S.; Dean, J.
#journal Genomics (1995) 25:354-359
#title POM-ZP3, a bipartite transcript derived from human ZP3 and a
#cross-references MUID:9530900
#accession A56844
##status preliminary
##molecule-type mRNA
##cross-references GB:U10099; NID:9607803; PID:9607804
SUMMARY #length 210 #molecular-weight 21196 #checksum 5951
Query Match
Best Local Similarity 88.3%; Score 287; DB 2; Length 210;
Matches 36; Conservative 3; Mismatches 2; Indels 0; Gaps 0;
Db 146 SWFPVQGPADICQCCNKGDCGTPSHSRQPHVMQSWSRSVS 41
Qy 1 SWFPVQGPADICQCCNKGDCGTPSHSRQPHVMQSWSRSVS 41

RESULT 3
ENTRY S70396 #type complete
TITLE zona pellucida glycoprotein C - dog
ORGANISM #formal_name Canis lupus familiaris #common_name dog
DATE 28-Oct-1995 #sequence_revision 27-Feb-1997 #text_change
20-Aug-1999
ACCESSIONS S70396
REFERENCE #authors Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.; Yurewicz, E.C.; Sacco, A.G.
#journal DNA Seq. (1994) 4:361-393
#title Cloning and characterization of zona pellucida genes and
CDNAS from a variety of mammalian species: the ZPA, ZPB and
ZPC gene families.
#accession S70396
##status preliminary
##molecule-type mRNA
##cross-references EMBL:U05780; NID:9458276; PIDN:AAA74387.1;
#cross-references MUID:95143578
FEATURE #superfamily sperm-binding glycoprotein ZP3; ZP domain
#homology homology
CLASSIFICATION #domain ZP domain homology #label ZPH
#length 426 #molecular-weight 47367 #checksum 1628
SUMMARY #length 426 #domain ZP domain homology #label ZPH
#length 426 #molecular-weight 47367 #checksum 1628
Query Match
Best Local Similarity 65.5%; Score 213; DB 2; Length 426;
Best Local Similarity 60.0%; Pred. No. 1.13e-30; Pred. No. 1.13e-30;

Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;
Qy 2 WFPPVQGPADICQCCNKGDCGTPSHSRQPHVMQSWSRSVS 41

RESULT 4
ENTRY A60503 #type complete
TITLE sperm-binding glycoprotein ZP3 precursor - golden hamster
ORGANISM #formal_name Meocricetus auratus #common_name golden hamster
DATE 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change
10-Sep-1999
ACCESSIONS A60503
REFERENCE #authors Kinloch, R.A.; Ruiz-Seiler, B.; Wasserman, P.M.
#journal Dev. Biol. (1990) 147:414-421
#title Genomic organization and polypeptide primary structure of
zona pellucida glycoprotein hZP3, the hamster sperm
receptor.
#accession MUID:91078540
##molecule-type DNA
##residues 1-422 #label KIN
##cross-references GB:M63629
COMMENT This sulfated glycoprotein was translated the codon CAA for residue 251 as
a carboxylate. The authors translated the codon CAA for residue 303 as Lys
(Glu, and AGG for residue 303 as Lys
homology
KEYWORDS glycoprotein; oocyte
FEATURE 45-300
SUMMARY #length 422 #molecular-weight 45801 #checksum 6117
Query Match
Best Local Similarity 60.6%; Score 197; DB 1; Length 422;
Matches 23; Conservative 11; Mismatches 7; Indels 0; Gaps 0;
Db 307 SWFPVQGDAEVCGCSSSGDCGSSSRSYOAHGVQWPKSAS 347
Qy 1 SWFPVQGPADICQCCNKGDCGTPSHSRQPHVMQSWSRSVS 41

RESULT 5
ENTRY S70399 #type complete
TITLE zona pellucida glycoprotein C - cat
ORGANISM #formal_name Felis silvestris catus #common_name domestic cat
DATE 28-Oct-1996 #sequence_revision 27-Feb-1997 #text_change
20-Aug-1999
ACCESSIONS S70399
REFERENCE #authors Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.; Yurewicz, E.C.; Sacco, A.G.
#journal DNA Seq. (1994) 4:361-393
#title Cloning and characterization of zona pellucida genes and
CDNAS from a variety of mammalian species: the ZPA, ZPB and
ZPC gene families.
#accession S70399
##status preliminary
##molecule-type mRNA
##cross-references MUID:95143578
FEATURE #superfamily sperm-binding glycoprotein ZP3; ZP domain
#homology homology
CLASSIFICATION #domain ZP domain homology #label ZPH
#length 426 #molecular-weight 47367 #checksum 1628
SUMMARY #length 426 #domain ZP domain homology #label ZPH
#length 426 #molecular-weight 47367 #checksum 1628
Query Match
Best Local Similarity 65.5%; Score 213; DB 2; Length 426;
Best Local Similarity 60.0%; Pred. No. 1.13e-30; Pred. No. 1.13e-30;

Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;
Qy 2 WFPPVQGPADICQCCNKGDCGTPSHSRQPHVMQSWSRSVS 41

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Query Match 60.0%; Score 195; DB 2; Length 424;
 Best Local Similarity 55.0%; Pred. No. 1.8e-26;
 Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;

Db 307 WFPVQGPADICQCCNKGCGQGRSRWLSHURPWHMAS 346
 Qy 2 WFPVQGPADICQCCNKGCGTPSHSRQRPHMSQWSRSVS 41

RESULT 6 A30334 #type complete
 ENTRY sperm-binding glycoprotein ZP3 precursor - mouse
 ALTERNATE_NAMES sperm receptor; zona pellucida glycoprotein ZP3; ZP3
 ORGANISM glycoprotein
 #formal_name Mus musculus #common_name house mouse
 DATE 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change

ACCESSIONS A30334; S04189; A31232; A48823
 REFERENCE Ringuette, M.J.; Chamberlin, M.E.; Baur, A.W.; Sobieski,
 D.A.; Dean, J.
 #journal Dev. Biol. (1988) 127:287-295
 #title Molecular analysis of cDNA coding for ZP3, a sperm binding
 protein of the mouse zona pellucida.
 #cross-references MUID:88242926
 #accession A30334
 #molecule_type DNA; mRNA
 - ##residues 1-424 ##label RIN

##cross-references GB:MB0026; NID:91663713; PIDN:AB18629.1;
 PID:91663714

REFERENCE S04189
 #authors Killoch, R.A.; Wasserman, P.M.
 #journal Nucleic Acids Res. (1989) 17:2861-2863
 #title Nucleotide sequence of the gene encoding zona pellucida
 glycoprotein ZP3 - the mouse sperm receptor.

#cross-references MUID:88240048
 #accession S04189
 #status translation not shown
 #molecule_type DNA
 #residues 1-423 ##label KIN

##cross-references EMBL:X14376

REFERENCE A31232
 #authors Killoch, R.A.; Roller, R.J.; Fimiani, C.M.; Wasserman, D.A.;
 #journal Proc. Natl. Acad. Sci. U.S.A. (1988) 85:6409-6413
 #title Primary structure of the mouse sperm receptor polypeptide
 determined by genomic cloning.

#cross-references MUID:88320451
 #accession A31232
 #status not compared with conceptual translation
 #molecule_type DNA
 #residues 1-152,'E',154-252,'E',254-424 ##label K12
 #cross-references EMBL:03851

REFERENCE A48823
 #authors Rosiere, T.K.; Wasserman, P.M.
 #journal Dev. Biol. (1992) 154:309-317
 #title Identification of a region of mouse zona pellucida
 glycoprotein mZP3 that possesses sperm receptor activity.

#cross-references MUID:93050795
 #accession A48823
 #status preliminary
 #molecule_type protein

##molecule_type protein
 #residues 1-152,'E',154-252,'E',254-424 ##label ROS
 #experimental_source ovary
 #note This sulfated glycoprotein in the zona pellucida of the oocyte is a
 receptor for sperm binding. It has O-linked as well as N-linked
 carbohydrate.

GENETICS #introns 103/3; 143/2; 178/1; 239/2; 278/3; 309/2; 355/1
 CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
 homology

KEYWORDS glycoprotein; oocyte; sulfoprotein; transmembrane protein
 FEATURE #domain signal sequence #status predicted #label SIG
 #product sperm-binding glycoprotein ZP3 #status
 #predicted #label MAT
 #domain ZP domain homology #label ZPH
 #binding site carbohydrate (Asn) (covalent) #status
 predicted
 #binding site carbohydrate (Asn) (covalent) #status

RESULT 7 S70433 #type complete
 ENTRY zona pellucida glycoprotein C - pig
 ORGANISM #formal_name Sus scrofa domesticus #common_name domestic pig
 DATE 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change

ACCESSIONS S70433
 REFERENCE Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.;
 Yurewicz, E.C.; Sacco, A.G.
 #journal DNA Seq. (1994) 4:361-333
 #title Cloning and characterization of zona pellucida genes and
 cDNAs from a variety of mammalian species: the ZPA, ZPB and
 ZPC gene families.

#cross-references MUID:95143578
 #accession S70433
 #status preliminary
 #molecule_type mRNA
 #residues 1-421 ##label HAR

CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
 homology

FEATURE #domain ZP domain homology #label ZPH
 #length 421 #molecular_weight 46239 #checksum 4652
 SUMMARY Query Match Similarity 49.5%; Score 161; DB 1; Length 421;
 Best Local Similarity 70.4%; Pred. No. 1.07e-18;
 Matches 19; Conservative 5; Mismatches 3; Indels 0; Gaps 0;

Db 308 WSPVGPAPAVICRCCCHGQCGPPSLRK 334
 Qy 2 WFPVQGPADICQCCNKGCGTPSHSR 28

RESULT 8 S70402 #type complete
 ENTRY zona pellucida glycoprotein C - bovine
 ORGANISM #formal_name Bos primigenius taurus #common_name cattle
 DATE 10-Sep-1999 #sequence_revision 10-Sep-1999 #text_change

ACCESSIONS S70402
 REFERENCE S70396
 #authors Harris, J.D.; Hibler, D.W.; Fontenot, G.K.; Hsu, K.T.;
 Yurewicz, E.C.; Sacco, A.G.
 #journal DNA Seq. (1994) 4:361-333
 #title Cloning and characterization of zona pellucida genes and
 cDNAs from a variety of mammalian species: the ZPA, ZPB and
 ZPC gene families.

#cross-references MUID:95143578
 #accession S70402
 #status preliminary
 #molecule_type mRNA

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    ##residues 1-421 ##label HAR
    ##cross-references EMBL:005775; NID:9458266; PIDN:AAAT74385-1;
    CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
    homology

    FEATURE 44-300
        #domain ZP domain homology #label ZPH
        #length 421 #molecular-weight 46545 #checksum 9197
    SUMMARY
    Query Match 48.0%; Score 156; DB 1; Length 421;
    Best Local Similarity 56.7%; Pred. No. 1.39e-17;
    Matches 17; Conservative 8; Mismatches 5; Indels 0; Gaps 0;
    Db 308 WSPVPGPTDCRCCSKRGCGISGSMRSH 337
    Qy 2 WFPVQGPADICQCCNKGDGTPSHSSRQPH 31

    RESULT 9
    ENTRY S70401 #type fragment
    TITLE zona pellucida glycoprotein C - rabbit (fragment)
    ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
    rabbit
    DATE 28-Oct-1996 #sequence_revision 27-Feb-1997 #text_change
    S70401 20-Aug-1999
    ACCESSIONS S70395
    REFERENCE #authors Harris, J.D.; Blader, D.W.; Fontenot, G.K.; Hsu, K.T.; Yurewicz, E.C.; Sacco, A.G.; journal DNA Seq. (1994) 4:361-393
    #title Cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the ZPA, ZPB and ZPC gene families.
    #cross-references MUID:95143578
    #accession S70401
    #status preliminary
    #molecule_type mRNA
    #cross-references EMBL:U05782; NID:9458280; PIDN:AAAT74392.1;
    CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
    FEATURE 41-295
        #length 415 #checksum 9740
    QUERY Match 40.3%; Score 131; DB 2; Length 415;
    Best Local Similarity 30.0%; Pred. No. 3.81e-12; Matches 16; Conservative 7; Mismatches 8; Indels 1; Gaps 1;
    Db 302 SWAPVEDASADICECCCGNGDCDLTAGSPMNQH 333
    Qy 1 SWFPVQGPADICQCCNKGDGC-TPSHSSRQPH 31

    RESULT 10
    ENTRY B44365 #type fragment
    TITLE sperm receptor ligand homolog ZP3-372 - human (fragment)
    ORGANISM #formal_name Homo sapiens #common_name man
    DATE 21-Sep-1993 #sequence_revision 18-Nov-1994 #text_change
    12-May-1995
    ACCESSIONS B44365
    REFERENCE #authors van Duin, M.; Polman, J.E.; Verkroelen, C.C.; Bunschoten, H.; Meyerink, J.H.; Olifice, W.; Aitken, R.J.; Genomics (1992) 14:1004-1070
    #journal Cloning and characterization of the human sperm receptor ligand ZP3: evidence for a second polymorphic allele with a different frequency in the Caucasian and Japanese populations MUID:9312271
    #cross-references MUID:9312271
    #accessions B44365
    #status preliminary

    RESULT 9
    ENTRY S70401 #type fragment
    TITLE zona pellucida glycoprotein C - rabbit (fragment)
    ORGANISM #formal_name Oryctolagus cuniculus #common_name domestic
    rabbit
    DATE 28-Oct-1996 #sequence_revision 27-Feb-1997 #text_change
    S70401 20-Aug-1999
    ACCESSIONS S70395
    REFERENCE #authors Harris, J.D.; Blader, D.W.; Fontenot, G.K.; Hsu, K.T.; Yurewicz, E.C.; Sacco, A.G.; journal DNA Seq. (1994) 4:361-393
    #title Cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the ZPA, ZPB and ZPC gene families.
    #cross-references MUID:95143578
    #accession S70401
    #status preliminary
    #molecule_type mRNA
    #cross-references EMBL:U05782; NID:9458280; PIDN:AAAT74392.1;
    CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
    FEATURE 121-375
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    Best Local Similarity 30.4%; Pred. No. 1.80e-02; Matches 7; Conservative 10; Mismatches 5; Indels 1; Gaps 1;
    Db 379 GWLADGNHOVCGCD-STCASP 400
    Qy 1 SWFPVQGPADICQCCNKGDGC-T 23

    RESULT 12
    ENTRY S35573 #type fragments
    TITLE zona pellucida glycoprotein beta chain - pig (fragments)
    ORGANISM #formal_name Sus scrofa domestica #common_name domestic pig
    DATE 20-May-1994 #sequence_revision 30-Jan-1998 #text_change
    07-May-1999
    ACCESSIONS S35573
    REFERENCE #authors Toefter-Petersen, E.; Mann, K.; Calvete, J.J.; Biol. Chem. Hoppe-Seyler (1993) 374:411-417
    #journal Identification of porcine oocyte 55 kDa alpha and beta proteins within the zona pellucida glycoprotein families indicates that oocyte sperm receptor activity is associated with different zona pellucida proteins in different mammalian species.
    #cross-references MUID:94030657
    #accession S35573
    #molecule_type protein
    #cross-references 1-15; 16-30; 31-58 ##label TOE
    CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
    homology

    KEYWORDS glycoprotein, oocyte; receptor

```

FEATURE 1-30
SUMMARY

Query Match 24.9%; Score 81; DB 2; Length 58;
Best Local Similarity 69.2%; Pred. No. 2.71e-02;
Matches 9; Conservative 2; Mismatches 2; Indels 0; Gaps 0;

Db 46 WSPVEGAVICRC 58
Qy 2 WFPVQGPADICQC 14

RESULT 13
ENTRY S52848 #type complete
TITLE egg membrane protein ZP3 (clone pCOV328) - common carp
ORGANISM #formal_name Cyprinus carpio #common_name common carp
DATE 06-Jun-1995 #sequence_revision 03-Aug-1995 #text_change
20-Aug-1999

ACCESSIONS S52848
REFERENCE S52845
#authors Chang, Y.; Wang, S.; Tsao, C.; Huang, F.
#submitted submitted to the EMBL Data Library, April 1995
#description structural analysis and expression of carp ZP3 gene.
#molecule_type mRNA
#cross-references EMBL:Z48973; NID:9763079; PIDN:CAA88837.1;
CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
#homology

FEATURE 110-364
SUMMARY #length 424 #domain ZP domain homology #label ZPH
#superfamily sperm-binding glycoprotein ZP3; ZP domain
homology

Query Match 24.6%; Score 80; DB 2; Length 424;
Best Local Similarity 30.6%; Pred. No. 2.71e-02;
Matches 11; Conservative 9; Mismatches 14; Indels 2; Gaps 2;

Db 381 GWLAADGNHQAGCCD-STCG-PGVSAAPVGQW 414
Qy 1 SWFPVQGPADICQCNCNGCGTSHSRQRPHVMSQW 36

RESULT 14
ENTRY S52716 #type complete
TITLE Sperm receptor ZP3 - common carp
ORGANISM #formal_name Cyprinus carpio #common_name common carp
DATE 19-May-1995 #sequence_revision 21-Jul-1995 #text_change
23-May-1997

ACCESSIONS S52716
REFERENCE S52716
#authors Chang, Y.; Wang, S.; Tsao, C.; Huang, F.
#submitted submitted to the EMBL Data Library, March 1995
#description structural analysis and expression of carp ZP3 gene.
#accession S52716
#molecule_type mRNA
#residues 1-388 #label CHA
#cross-references EMBL:Z48798
CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
homology

FEATURE 89-343
SUMMARY #length 388 #domain ZP domain homology #label ZPH
#molecular-weight 42248 #checksum 3771

Query Match 24.6%; Score 80; DB 2; Length 388;
Best Local Similarity 30.6%; Pred. No. 4.06e-02;
Matches 11; Conservative 9; Mismatches 14; Indels 2; Gaps 2;

Db 347 GWLAADGNHQAGCCD-STCG-PGVSAAPVGQW 380
Qy 1 SWFPVQGPADICQCNCNGCGTSHSRQRPHVMSQW 36

RESULT 15
ENTRY S52847 #type fragment
TITLE egg membrane protein ZP3 (clone pCOV638) - common carp
(fragment)
ORGANISM #formal_name Cyprinus carpio #common_name common carp
DATE 09-Jun-1995 #sequence_revision 21-Jul-1995 #text_change
09-Aug-1999

ACCESSIONS S52847
REFERENCE S52847
#authors Chang, Y.; Wang, S.; Tsao, C.; Huang, F.
#submitted submitted to the EMBL Data Library, April 1995
#description structural analysis and expression of carp ZP3 gene.
#molecule_type mRNA
#residues 1-424 #label CHA
#cross-references EMBL:Z48973; NID:9763077; PIDN:CAA88836.1;
CLASSIFICATION #superfamily sperm-binding glycoprotein ZP3; ZP domain
homology

FEATURE 110-364
SUMMARY #length 424 #domain ZP domain homology #label ZPH
#superfamily sperm-binding glycoprotein ZP3; ZP domain
homology

Query Match 24.6%; Score 80; DB 2; Length 424;
Best Local Similarity 27.8%; Pred. No. 4.06e-02;
Matches 10; Conservative 9; Mismatches 16; Indels 1; Gaps 2;

Db 368 GWLAADGNHQVCSCCD-STCGLDGIIASPGGGQW 402
Qy 1 SWFPVQGPADICQCNCNGCGTSHSRQRPHVMSQW 36

Search completed: Fri Apr 28 14:26:59 2000
Job time : 55 secs.

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MPsrch_APP protein - protein database search, using Smith-Waterman algorithm

Run on: Fri Apr 28 14:23:32 2000; MasPar time 3.68 Seconds
 Tabular output not generated.

Title: >US-09-252-828-1

Description: (1-41) from US09252828.pep

Perfect Score: 325

Sequence: 1 SWFPVQGPADICQCCNKGDCGTPSHSRQRPHVMSWRSVS 41

Scoring table: PAM 150
 Gap 11

Searched: 82229 seqs, 29864865 residues

Post-processing: Minimum Match 0% Listing first 45 summaries

Database: swiss-protein
 1:swissprot

Statistics: Mean 32.196; Variance 46.313; scale 0.695

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

RESULT	1	STANDARD;	PRT;	424 AA.
ID	ZP3A_HUMAN			
AC	P21754;			
DT	01-MAY-1991 (Rel. 18, Created)			
DT	01-MAY-1991 (Rel. 18, Last sequence update)			
DT	15-DEC-1998 (Rel. 39, Last annotation update)			
DE	ZONA_PELLUCIDA_SPERM-BINDING_PROTEIN_3A_PRECURSOR (ZONA_PELLUCIDA)			
DE	GLYCOPROTEIN_ZP3A) (ZONA_PELLUCIDA_PROTEIN_C) (SPERM RECEPTOR) (ZP3).			
GN	ZP3A OR ZP3.			
OS	Homo sapiens (Human).			
OC	Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;			
OU	Ostia; Eutheria; Primates; Catarrhini; Hominidae; Homo.			
RN	[1]			
RP	SEQUENCE FROM N.A.			
RX	MEDLINE: 90349545.			
RA	CHAMBERLIN M.E., DEAN J.; "Human homolog of the mouse sperm receptor.",			
RT	"Human homolog of the mouse sperm receptor.",			
RL	PROC. NATL. ACADEM. SCI. U.S.A. 87:6014-6018(1990).			
RN	[2]			
RP	SEQUENCE OF 329-424 FROM N.A.			
RC	TISSUE/OVARY;			
RX	MEDLINE: 93122771.			
RA	VAN DUIN M., POLMAN J.E., VERKOELEN C.C., BUNSCHOTEN H.,			
RA	MEYERINK J.H., OLIVE W., ATKEN R.J.,			
RT	"Cloning and characterization of the human sperm receptor ligand ZP3: evidence for a second polymorphic allele with a different frequency in the Caucasian and Japanese populations.",			
RT	GENOMICS 14:1064-1070(1992).			
RL	-1- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSIMILATION.			
CC	-1- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINED BY ZP1.			
CC	-1- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.			
CC	-1- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.			
CC	-1- SIMILARITY: CONTAINS 1 ZP DOMAIN.			
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ or send an email to license@isb-sib.ch).			
CC	EMBL; M50504; AAA61336.1; -.			

ALIGNMENTS

Result No.	Score	Query	Length	DB	ID	Description	Pred. No.
1	314	96.6	424	1	ZP3A_HUMAN	ZONA_PELLUCIDA_SPERM-B	18.98e-61
2	303	93.3	372	1	ZP3B_HUMAN	ZONA_PELLUCIDA_SPERM-B	8.81e-58
3	301	92.6	424	1	ZP3A_MACRA	ZONA_PELLUCIDA_SPERM-B	3.07e-57
4	253	77.8	424	1	ZP3A_CALSO	ZONA_PELLUCIDA_SPERM-B	2.37e-44
5	213	65.5	426	1	ZP3_CANFA	ZONA_PELLUCIDA_SPERM-B	7.33e-34
6	197	60.6	422	1	ZP3_MSMA	ZONA_PELLUCIDA_SPERM-B	9.47e-30
7	195	60.0	424	1	ZP3_FEELCA	ZONA_PELLUCIDA_SPERM-B	3.06e-29
8	172	52.9	424	1	ZP3_MOUSE	ZONA_PELLUCIDA_SPERM-B	1.89e-23
9	161	49.5	421	1	ZP3_PIG	ZONA_PELLUCIDA_SPERM-B	9.75e-21
10	156	48.0	421	1	ZP3_BOVIN	ZONA_PELLUCIDA_SPERM-B	1.62e-19
11	131	40.3	415	1	ZP3_RABIT	ZONA_PELLUCIDA_SPERM-B	1.43e-13
12	76	23.4	71	1	NXL1_NAJNA	LONG_NEUROTOXIN_1 (TOX)	6.41e-02
13	76	23.4	71	1	NXL2_NAJNA	LONG_NEUROTOXIN_2 (TOX)	6.41e-02
14	75	23.1	71	1	NXL3_NAJNA	LONG_NEUROTOXIN_3 (TOX)	9.76e-02
15	75	23.1	71	1	NXL4_NAJNA	LONG_NEUROTOXIN_4 (TOX)	9.76e-02
16	75	23.1	71	1	NXL5_NAJNA	LONG_NEUROTOXIN_5 (TOX)	9.76e-02
17	74	22.8	74	1	NXL6_ACNAAN	ACANTHOPHIN_D (POSTSYN)	1.48e-01
18	74	22.8	499	1	LIPH_HUMAN	TRACYLGLYCEROL_LIPASE	1.48e-01
19	73	22.5	999	1	DSG3_HUMAN	DESMOGLEIN_3 PRECURSOR	2.24e-01
20	72	22.2	65	1	TXW6_NAJNA	WEAK_NEUROTOXIN_6.	3.37e-01
21	72	22.2	71	1	NXL1_NAJKA	LONG_NEUROTOXIN_1 (NEU)	3.37e-01
22	71	21.8	593	1	YCV1_YEAST	HYPOTHETICAL_65.0_KD_P	5.05e-01
23	70	21.5	202	1	P21_SOYBN	P21 PROTEIN.	7.55e-01

DR PIR: A36000; A36000.
 DR MIM: 182889; -
 DR PROSITE: PS00682; ZP_DOMAIN; 1.
 DR PFAM: PF00100; zona_pellucida; 1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;
 KW Extracellular matrix; Multigene family;
 FT SIGNAL 1
 FT CHAIN 22
 FT DOMAIN 1
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 226
 FT CARBOHYD 226
 FT TRANSMEM 408
 FT TRANSMEM 408
 FT CARBOHYD 424
 FT CARBOHYD 424
 FT CARBOHYD 424
 FT CARBOHYD 424
 SQ SEQUENCE 424 AA; 47028 MW; 10A13B45 CRC32;
 Query Match 96.6%; Score 314; DB 1; Length 424;
 Best Local Similarity 95.1%; Pred. No. 8.98e-61; 1;
 Matches 39; Conservative 1; Mismatches 1; Indels 0; Gaps 0;
 AC Q05633; 01-OCT-1994 (Rel. 30, created)
 DT 01-OCT-1994 (Rel. 30, last sequence update)
 DT 15-DEC-1999 (Rel. 39, Last annotation update)
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3B PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3B) (SPERM RECEPTOR) (ZP3).
 DE ZP3B
 OS Homo sapiens (Human).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 OC Eutheria; Primates; Catarrhini; Hominidae; Homo.
 RN [1].
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RX MEDLINE: 93122771.
 RA VAN DUN M., VERKOELEN C.C., BUNSCHOTEN H.,
 RA MEYERINK J.H., OLIVIER W., ATKEN R.J.;
 RT "Cloning and characterization of the human sperm receptor ligand ZP3: evidence for a second polymorphic allele with a different frequency in the Caucasian and Japanese populations.",
 RT Genomics 14:1064-1070(1992).
 CC -- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION.
 CC -- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 CC -- SUBCELLULAR LOCATION: EXTRACELLULAR MATRIX.
 CC -- PM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.
 CC -- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 CC
 CC EMBL: X56777; CAA40095.1; -.
 CC PROSITE: PS00682; ZP_DOMAIN; 1.
 CC PFAM: PF00100; zona_pellucida; 1.
 CC Glycoprotein; Signal; Sulfatation; Sperm; Receptor;
 CC Extracellular matrix; Multigene family;
 DR EMBL: A18567; CAA01398.1; -.
 DR PROSITE: PS00682; ZP_DOMAIN; 1.
 DR PFAM: PF00100; zona_pellucida; 1.
 DR Glycoprotein; Signal; Sulfatation; Sperm; Receptor;
 KW Extracellular matrix; Multigene family;
 FT SIGNAL 1
 FT CHAIN 22
 FT DOMAIN 1
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 226
 FT CARBOHYD 226
 FT TRANSMEM 388
 FT TRANSMEM 408
 FT DOMAIN 409
 FT DOMAIN 45
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 272
 FT CARBOHYD 272
 SQ SEQUENCE 372 AA; 41424 MW; 9D714735 CRC32;
 Query Match 93.2%; Score 303; DB 1; Length 372;
 Best Local Similarity 92.7%; Pred. No. 8.81e-58; 1;
 Matches 38; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 AC P53785; 01-OCT-1996 (Rel. 34, created)
 DT 01-OCT-1996 (Rel. 34, last sequence update)
 DT 15-DEC-1999 (Rel. 39, Last annotation update)
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3A) (ZONA PELLUCIDA PROTEIN C) (SPERM RECEPTOR) (ZP3).
 DE ZP3A OR ZP3.
 OS Macaca radiata (Bonnet monkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 OC Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae;
 OC Macaca.
 RN [1].
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RX MEDLINE: 9629321.
 RA KOLIJN R.K., KAUL R., BANERJEE K., GUPTA S.K.;
 RT "Nucleotide sequence of DNA encoding bonnet monkey (Macaca radiata) zona pellucida glycoprotein ZP3.",
 RT Reprod. Fertil. Dev. 7:1209-1212(1995).
 CC -- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION.
 CC -- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 CC -- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.
 CC -- PM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.
 CC -- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 CC
 DR EMBL: X87639; CAA5791.1; -.
 DR PROSITE: PS00682; ZP_DOMAIN; 1.
 DR PFAM: PF00100; zona_pellucida; 1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;
 KW Extracellular matrix; Multigene family;
 FT SIGNAL 1
 FT DOMAIN 23
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 226
 FT CARBOHYD 226
 FT TRANSMEM 388
 FT TRANSMEM 408
 FT DOMAIN 409
 FT DOMAIN 45
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 272
 FT CARBOHYD 272
 SQ SEQUENCE 372 AA; 41424 MW; 9D714735 CRC32;
 Query Match 93.2%; Score 303; DB 1; Length 372;
 Best Local Similarity 92.7%; Pred. No. 8.81e-58; 1;
 Matches 38; Conservative 1; Mismatches 2; Indels 0; Gaps 0;
 AC P53785; 01-OCT-1996 (Rel. 34, created)
 DT 01-OCT-1996 (Rel. 34, last sequence update)
 DT 15-DEC-1999 (Rel. 39, Last annotation update)
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3A) (ZONA PELLUCIDA PROTEIN C) (SPERM RECEPTOR) (ZP3).
 DE ZP3A OR ZP3.
 OS Macaca radiata (Bonnet monkey).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 OC Eutheria; Primates; Catarrhini; Cercopithecidae; Cercopithecinae;
 OC Macaca.
 RN [1].
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RX MEDLINE: 9629321.
 RA KOLIJN R.K., KAUL R., BANERJEE K., GUPTA S.K.;
 RT "Nucleotide sequence of DNA encoding bonnet monkey (Macaca radiata) zona pellucida glycoprotein ZP3.",
 RT Reprod. Fertil. Dev. 7:1209-1212(1995).
 CC -- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION.
 CC -- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 CC -- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.
 CC -- PM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.
 CC -- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 CC
 DR EMBL: X87639; CAA5791.1; -.
 DR PROSITE: PS00682; ZP_DOMAIN; 1.
 DR PFAM: PF00100; zona_pellucida; 1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor;
 KW Extracellular matrix; Multigene family;
 FT SIGNAL 1
 FT DOMAIN 23
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 226
 FT CARBOHYD 226
 FT TRANSMEM 388
 FT TRANSMEM 408
 FT DOMAIN 409
 FT DOMAIN 45
 FT CARBOHYD 125
 FT CARBOHYD 125
 FT CARBOHYD 147
 FT CARBOHYD 272
 FT CARBOHYD 272
 SQ SEQUENCE 372 AA; 41424 MW; 9D714735 CRC32;

Query Match 92.6%; Score 301; DB 1; length 424;
 Best Local Similarity 90.2%; Pred. No. 3.07e-57; ID 5
 Matches 37; Conservative 3; Mismatches 1; Indels 0; Gaps 0;

Db 308 SWFPVEGGPADICQCCSKGDCGTPSHARRQPHVS 348
 Qy 1 SWFPVQGPADICQCCNKGDGCTPSHSRQPHVMSQWSRSVS 41

RESULT 4
 ID ZP3A_CALSQ STANDARD; PRT; 424 AA.
 AC P53386;
 DT 01-OCT-1996 (Rel. 34, Created)
 DT 01-OCT-1996 (Rel. 34, Last sequence update)
 DT 15-DEC-1999 (Rel. 39, Last annotation update)
 DE GLYCOPROTEIN ZP3A) (ZONA PELLUCIDA PROTEIN C) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
 GN ZP3A OR ZP3.
 OS Callithrix sp. (Marmoset).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 OC Eutheria; Primates; Platyrrhini; Callitrichidae; Callithrix.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RX MEDLINE: 94363314.
 RA THILAI-KOOTHAN P., VAN DUIN M., AITKEN R.J.;
 RT "Cloning, sequencing and oocyte-specific expression of the marmoset sperm receptor protein, ZP3.";
 RL Zygote 1:93-101(1993).
 CC -!- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION.
 CC -!- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 CC -!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.
 CC -!- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.
 CC -!- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 CC
 DR EMBL: S71825; ARB31866.1; -;
 DR PROSITE: PS00682; ZP-DOMAIN; 1.
 DR PFAM: PF00100; zona_pellucida_1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix; Multigene family.
 FT SIGNAL 1 22 POTENTIAL.
 FT CHAIN 23 424 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3A.
 FT DOMAIN 23 387 EXTRACELLULAR (POTENTIAL).
 FT TRANSMEM 388 408 POTENTIAL.
 FT DOMAIN 409 424 CYTOPLASMIC (POTENTIAL).
 FT DOMAIN 45 307 ZP.
 FT CARBOHYD 125 125 POTENTIAL.
 FT CARBOHYD 147 180 POTENTIAL.
 FT CARBOHYD 272 272 POTENTIAL.
 SQ SEQUENCE 424 AA: 46809 MW: 2F8E34AD CRC32:
 Query Match 77.8%; Score 253; DB 1; length 424;
 Best Local Similarity 88.2%; Pred. No. 2.37e-44; ID 5
 Matches 30; Conservative 4; Mismatches 0; Indels 0; Gaps 0;

RESULT 5
 ID ZP3_CANFA STANDARD; PRT; 426 AA.
 AC P48831;
 DT 01-FEB-1996 (Rel. 33, Created)
 DT 01-FEB-1996 (Rel. 33, Last sequence update)
 DT 15-DEC-1999 (Rel. 39, Last annotation update)
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
 GN ZP3 OR ZPC.
 OS Canis familiaris (Dog).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 OC Bovidae; Carnivora; Fissipedia; Canidae; Canis.
 RN [1]
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RX MEDLINE: 95143578.
 RA HARRIS J.D., HIBLER D.W., FONTENOT G.K., HSU K.T., YUREWICZ E.C., SACCO A.G.; "Cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the ZPA, ZPB and ZPC gene families.", DNA Seq. 4:361-393(1994).
 RN [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RA OKAZAKI Y., SUGIMOTO M.;
 RL Submitted (JAN-1995) to the EMBL/GenBank/DDBJ databases.
 CC -!- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION (BY SIMILARITY).
 CC -!- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 CC -!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR MATRIX.
 CC -!- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES (BY SIMILARITY).
 CC -!- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 CC
 DR EMBL: U05730; ARAB474387; 1;
 DR PROSITE: D45070; BAB08098; 1;
 DR PFAM: PF00682; ZP-DOMAIN; 1.
 DR PROSITE: PS00682; Zona_Pellucida_1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix; Multigene family.
 FT SIGNAL 1 22 POTENTIAL.
 FT CHAIN 23 426 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3.
 FT DOMAIN 23 385 EXTRACELLULAR (POTENTIAL).
 FT TRANSMEM 386 406 CYTOPLASMIC (POTENTIAL).
 FT DOMAIN 407 425 ZP.
 FT CARBOHYD 43 305 POTENTIAL.
 FT CARBOHYD 123 125 POTENTIAL.
 FT CARBOHYD 145 145 POTENTIAL.
 FT CARBOHYD 244 244 POTENTIAL.
 FT CONFLICT 227 227 L -> P (IN REF. 2).
 FT CONFLICT 307 307 W -> S (IN REF. 2).
 FT CONFLICT 343 343 K -> R (IN REF. 2).
 SQ SEQUENCE 426 AA: 47367 MW: 9GB10B2 CRC32:
 Query Match 65.5%; Score 213; DB 1; length 426;
 Best Local Similarity 60.0%; Pred. No. 7.33e-34; ID 5
 Matches 24; Conservative 9; Mismatches 7; Indels 0; Gaps 0;

Db 307 WPVEGEGADICRCNCQCCSKGDCGTPSHARRQPHVS 346
 Qy 1 SWFPVQGPADICQCCNKGDGCTPSHSRQPHVMSQWSRSVS 41
 2 WPVQGPADICQCCNKGDGCTPSHSRQPHVMSQWSRSVS 41

RESULT	6		
ID	ZP3_MEAU	STANDARD;	PRT; 422 AA.
P23491;			
AC			
F48832;			
DT	01-NOV-1991 (Rel. 20, Created)		
DT	01-FEB-1996 (Rel. 33, Last sequence update)		
DT	15-DEC-1999 (Rel. 39, Last annotation update)		
DE	ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA PROTEIN C).		
GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).			
GN	ZP3 OR ZPC.		
OS	Felis silvestris catus (Cat).		
OC	Eutheria; Carnivora; Fissipedia; Felidae; Felis.		
RN	[1]		
RP	SEQUENCE FROM N.A.		
RC	TISSUE-OVARY;		
RX	MEDLINE: 95143578.		
RA	HARRIS J.D., HIBLER D.W., FONTENOT G.K., HSU K.T., YUREWICZ E.C., SACCO A.G.		
RA	"cloning and characterization of zona pellucida genes and cDNAs from a variety of mammalian species: the ZPA, ZPB and ZPC gene families.", DNA Seq. 4:361-393(1994).		
RN	[2]		
RP	SEQUENCE FROM N.A.		
RC	TISSUE-OVARY;		
RA	KINLOCH R.A., RUTZ-SELLER B., WASSARMAN P.M.; MELLINK, 91078540.		
RT	"genomic organization and polypeptide primary structure of zona pellucida glycoprotein hZP3, the hamster sperm receptor.";		
RL	Dev. Biol. 142:414-421(1991).		
CC	-!- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE SPECIES-SPECIFICITY OF THE INSEMINATION.		
CC	-!- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.		
CC	-!- TISSUE-SPECIFICITY: OOCYTES.		
CC	-!- DEVELOPMENTAL STAGE: GROWING OOCYTES.		
CC	-!- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.		
CC	-!- SIMILARITY: CONTAINS 1 ZP DOMAIN.		
CC	This SWISS-PROT entry is copyright. It is produced through a collaboration between the Swiss Institute of Bioinformatics and the EMBL outstation - the European Bioinformatics Institute. There are no restrictions on its use by non-profit institutions as long as its content is in no way modified and this statement is not removed. Usage by and for commercial entities requires a license agreement (See http://www.isb-sib.ch/announce/ , or send an email to license@isb-sib.ch).		
CC			
DR	EMBL: M63629; AAA37079.1; PROSITE; PS00682; ZP_DOMAIN; 1.		
DR	PFAM; PF00100; zona_pellucida; 1.		
KW	Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane; Extracellular matrix.		
FT	SIGNAL 1 22 POTENTIAL.		
FT	CHAIN 23 422 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3.		
FT	DOMAIN 23 385 EXTRACELLULAR (POTENTIAL).		
FT	TRANSMEM 387 407 422 POTENTIAL.		
FT	DOMAIN 408 408 422 CYTOPLASMIC (POTENTIAL).		
FT	DOMA IN 45 305 ZP. PRO-RICH.		
FT	DOMA IN 119 158 257 PRO-RICH.		
FT	DOMA IN 208 145 271 POTENTIAL.		
FT	CARBOHD 146 145 271 CARBOHYD 271 302 POTENTIAL.		
FT	CARBOHD 146 145 271 CARBOHYD 271 302 POTENTIAL.		
SQ	SEQUENCE 422 AA; 45827 MW; 22B720F5 CRC32;		
Query Match	60.6%; Score 197; DB 1; Length 422; Best Local Similarity 56.1%; Pred. No. 9.47e-30; Matches 23; Conservative 11; Mismatches 0; Indels 0; Gaps 0;		
Db	307 SNSPVGDAEVGCCSSGCGSSRSRQAHGSQWPKSAS 347		
Oy	1 SWPVQGPADICQCNCNGDGGPSPHSRRQPMWSQWSRSVS 41		
RESULT	7		
ID	ZP3_FELCA	STANDARD;	PRT; 424 AA.
AC	P48832;		
DT	01-FEB-1996 (Rel. 33, Created)		
DT	01-FEB-1996 (Rel. 33, Last sequence update)		
RESULT	8		
ID	ZP3_MOUSE	STANDARD;	PRT; 424 AA.
AC	P10761;		
DT	01-JUL-1989 (Rel. 11, Created)		
DT	01-NOV-1997 (Rel. 35, Last sequence update)		
Db	307 WPPVPGSPADICQCNCNGDGGPSPHSRRQPMWSQWSRSVS 346		
Oy	2 WPPVQGPADICQCNCNGDGGPSPHSRRQPMWSQWSRSVS 41		
Query Match	60.0%; Score 195; DB 1; Length 424; Best Local Similarity 55.0%; Pred. No. 3.06e-29; Matches 22; Conservative 7; Mismatches 11; Indels 0; Gaps 0;		

15-DEC-1999 (Rel. 39, last annotation update)
 DT ZONA PELLUCIDA SPERM-BINDING PROTEIN 3 PRECURSOR (ZONA PELLUCIDA
 DE GLYCOPROTEIN ZP3) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
 GN ZP3 OR ZP-3.
 OS Mus musculus (Mouse).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mus.
 [1]
 RN SEQUENCE FROM N.A.
 RP MEDLINE: 88242926.
 RX RINGUETTE M.J.; CHAMBERLIN M.E.; BAUR A.W.; SOBIESKI D.A.; DEAN J.;
 "Molecular analysis of cDNA coding for ZP3, a sperm binding protein
 of the mouse zona pellucida.";
 Dev. Biol. 127:287-295(1988).
 [2]
 RP REVISION TO 387.
 RA DEAN J.;
 RL Submitted (NOV-1996) to the EMBL/GenBank/DDBJ databases.
 [3]
 RP SEQUENCE FROM N.A.
 RC STRAIN=CD-1; TISSUE=LIVER;
 RX KINLOCH R.A., WASSARMAN P.M.;
 "Nucleotide sequence of the gene encoding zona pellucida glycoprotein
 RT ZP3 -- the mouse sperm receptor";
 Nucleic Acids Res. 17:2861-2863(1989).
 [4]
 RP SEQUENCE FROM N.A.
 RX MEDLINE: 89240048.
 RA KINLOCH R.A., ROLLER R.J., FIMIANI C.M., WASSARMAN D.A.,
 WASSARMAN P.M.;
 RT "Primary structure of the mouse sperm receptor polypeptide determined
 by genomic cloning.;"
 Proc. Natl. Acad. Sci. U.S.A. 85:6409-6413(1988).
 [5]
 RP SEQUENCE OF 49-63; 197-204; 219-233 AND 261-275.
 RC STRAIN=CD-1;
 RX MEDLINE: 93050795.
 RA WASSARMAN P.M.;
 ROSIER T.K.; WASSARMAN P.M.;
 RT "Identification of a region of mouse zona pellucida glycoprotein mZP3
 that possesses sperm receptor activity";
 Dev. Biol. 154:309-317(1992).
 MEDLINE: 93050795.
 RA YUREWICZ E.C., HIBLER D., FONTENOT G.K., HARRIS J.;
 YUREWICZ E.C.,
 Submitted (JUL-1993) to the EMBL/GenBank/DDBJ databases.
 [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RA OKAZAKI Y., SUGINOMOTO M.;
 RLU SUBMITTED (JAN-1995) to the EMBL/GenBank/DDBJ databases.
 -!- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR
 CC SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE
 SPECIES-SPECIFICITY OF THE INSEMINATION.
 -!- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN
 WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 -!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR
 MATRIX.
 -!- TISSUE SPECIFICITY: OCYTES
 -!- DEVELOPMENTAL STAGE: EXPRESSED DURING THE 2-WEEK GROWTH PHASE OF
 OC OCgenesis, PRIOR TO OVULATION.
 -!- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES.
 -!- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 or send an email to license@isb-sib.ch).
 CC EMBL: M20026; AAB18629.1; -.
 DR EMBL: X14376; CAA32550.1; -.
 DR PIR: S04189; S04189.
 DR PIR: A30334; A30334.
 DR A31232; A31232.
 MG: MG.I-99215; ZP3.
 PROST: PS00682; ZP-DOMAIN; 1.
 PFAM: PF00100; zona.Pellucida; 1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;
 Extracellular matrix.

FT SIGNAL 1 22 POTENTIAL.
 FT CHAIN 23 424 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3.
 FT DOMAIN 23 387 EXTRACELLULAR (POTENTIAL).
 FT TRANSMEM 388 408 POTENTIAL.
 FT DOMAIN 409 424 CYTOPLASMIC (POTENTIAL).
 FT DOMAIN 45 308 ZP.
 FT CARBOHD 146 146 POTENTIAL.
 FT CARBOHD 273 273 POTENTIAL.
 FT CARBOHD 304 304 POTENTIAL.
 FT CARBOHD 327 327 POTENTIAL.
 FT CARBOHD 330 330 POTENTIAL.
 SQ SEQUENCE 424 AA; 46303 MW; 3C46A909 CRC32;
 Query Match 52.9%; Score 172; DB 1; Length 424;
 Best Local Similarity 53.7%; Pred. No. 1.89e-23;
 Matches 22; Conservative 9; Mismatches 10; Indels 0; Gaps 0;
 Qy 1 SWFPVQGPADICQCCNKGDCGHPFSRKRQPHMSQWSRSVS 41
 DB 309 SWLPVVEDADIDCQCCSIGNSNSSSQFOIQHSPROWSLVS 349
 Qy 1 SWFPVQGPADICQCCNKGDCGHPFSRKRQPHMSQWSRSVS 41
 RESULT 9
 ID ZP3_PIG STANDARD:
 AC P42098;
 DT 01-NOV-1995 (Rel. 32, Created)
 DT 01-NOV-1995 (Rel. 32, Last sequence update)
 DT 15-DEC-1999 (Rel. 39, Last annotation update)
 DE ZONA PELLUCIDA SPERM-BINDING PROTEIN 3-BETA PRECURSOR (ZONA PELLUCIDA
 GLYCOPROTEIN ZP3-BETA) (SPERM RECEPTOR) (ZONA PELLUCIDA PROTEIN C).
 DE ZP3B OR ZPC.
 OS Sus scrofa (Pig).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;
 Eutheria; Gekartiodactyla; Suina; Suidae; Sus.
 [1]
 RN SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RA YUREWICZ E.C., HIBLER D., FONTENOT G.K., HARRIS J.;
 Submitted (JUL-1993) to the EMBL/GenBank/DDBJ databases.
 [2]
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RA OKAZAKI Y., SUGINOMOTO M.;
 RLU SUBMITTED (JAN-1995) to the EMBL/GenBank/DDBJ databases.
 -!- FUNCTION: FUNCTIONS AS A SPERM-RECEPTOR. IT IS RESPONSIBLE FOR
 CC SPERM-ADHESION TO THE ZONA PELLUCIDA, AND MAY CONTRIBUTE TO THE
 SPECIES-SPECIFICITY OF THE INSEMINATION (BY SIMILARITY).
 CC -!- SUBUNIT: ZP3 FORMS WITH ZP1 AND ZP2 THE ZONA PELLUCIDA, IN
 WHICH ZP2 AND ZP3 COMPLEX INTO COPOLYMERS CROSS-LINKED BY ZP1.
 CC -!- SUBCELLULAR LOCATION: TYPE I MEMBRANE PROTEIN. EXTRACELLULAR
 MATRIX.
 CC -!- TISSUE SPECIFICITY: OCYTES.
 CC -!- PTM: SULFATED GLYCOPROTEIN WITH O-LINKED OLIGOSACCHARIDES
 CC (BY SIMILARITY).
 CC -!- SIMILARITY: CONTAINS 1 ZP DOMAIN.
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 or send an email to license@isb-sib.ch).
 CC EMBL: U22169; AAC31145.1; -.
 DR EMBL: D45981; BAB0893.1; -.
 DR PROST: PS00682; ZP-DOMAIN; 1.
 DR PFAM: PF00100; zona.Pellucida; 1.
 KW Glycoprotein; Signal; Sulfatation; Sperm; Receptor; Transmembrane;
 Extracellular matrix.
 FT SIGNAL 1 21 POTENTIAL.
 FT CHAIN 22 421 ZONA PELLUCIDA SPERM-BINDING PROTEIN 3-BETA.

P21668; P01392;
AC
DT 21-JUL-1986 (Rel. 01, Created)
DT 01-MAY-1992 (Rel. 22, Last sequence update)
DE LONG NEUROTOXIN 1 (TOXIN A).
OS Naja naja (Indian cobra).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Lepidosauria;
OC Squamata; Scleroglossa; Serpentes; Colubroidea; Elapidae; Elapinae;
OC Naja.
RN SEQUENCE.
RC TISSUE=VENOM;
RX MEDLINE; 72055125.
RA NAKAI K., SASAKI T., HAYASHI K.; from the venom of the Indian cobra
RT "Amino acid sequence of toxin A from the venom of the Indian cobra
RL Bioclin. Biophys. Res. Commun. 44:893-897 (1971).
CC -!- MISCELLANEOUS: LD(50) IS 0.15 MG/KG BY SUBCUTANEOUS INJECTION.
DR PIR: A01663; N2NJI1.
DR HSSP; P01391; ICTX.
DR PROSITE; PS00212; SNAKE_TOXIN; 1.
DR PFAM; PF00087; toxin; 1.
KW Venom; Neurotoxin; Multigene family.
FT DISULFID 3 20
FT DISULFID 14 41
FT DISULFID 26 30
FT DISULFID 45 56
FT DISULFID 57 62
SQ SEQUENCE 71 AA: 7847 MW: 27FF079A CRC32;
Query Match 23.4%; Score 76; DB 1; Length 71;
Best Local Similarity 42.3%; Pred. No. 6.41e-02;
Matches 11; Conservative 5; Mismatches 8; Indels 2; Gaps 2;
DB 48 VRTGVLDI-OCCSTDCCD-PPPTRKRP 71
QY 5 VQGPADICQCNCKGDCGTPSHSRQP 30

RESULT 13
ID NXL2_NAJNA STANDARD; PRT: 71 AA.
AC P25669; P01392;
DT 21-JUL-1986 (Rel. 01, Created)
DT 21-JUL-1986 (Rel. 01, Last sequence update)
DE 15-DEC-1998 (Rel. 37, Last annotation update)
OS Naja naja (Indian cobra).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Lepidosauria;
OC Squamata; Scleroglossa; Serpentes; Colubroidea; Elapidae; Elapinae;
OC Naja.
RN [1]
SEQUENCE.
RC TISSUE=VENOM;
RY MEDLINE; 77048940.
RA OHTA M., SASAKI T., HAYASHI K.;
RT "The primary structure of toxin B from the venom of the Indian cobra
RL Naja naja.";
FEBS Lett. 72:161-166(1976).
PIR: A01663; N2NJI1.
DR HSSP; P01391; ICTX.
DR PROSITE; PS00212; SNAKE_TOXIN; 1.
DR PFAM; PF00087; toxin; 1.
KW Venom; Neurotoxin; Multigene family.
FT DISULFID 3 20
FT DISULFID 14 41
FT DISULFID 26 30
FT DISULFID 45 56
FT DISULFID 57 62
SQ SEQUENCE 71 AA: 7821 MW: 2C93A754 CRC32;
Query Match 23.4%; Score 76; DB 1; Length 71;
Best Local Similarity 42.3%; Pred. No. 6.41e-02;
Matches 11; Conservative 5; Mismatches 8; Indels 2; Gaps 2;

RESULT 14
ID NXL3_NAJNA STANDARD; PRT: 71 AA.
AC P25671;
DT 01-MAY-1992 (Rel. 22, Last sequence update)
DT 01-MAY-1992 (Rel. 22, Last annotation update)
DE 15-DEC-1998 (Rel. 37, Last annotation update)
OS LONG NEUROTOXIN 3 (TOXIN C).
RA Naja naja (Indian cobra).
RT "The primary structure of toxin C from the venom of the Indian cobra
RL Chem. Pharm. Bull. 29:1458-1475(1981); IS 0.10 TO 0.15 MG/KG BY SUBCUTANEOUS
CC -!- MISCELLANEOUS: LD(50) IS 0.10 TO 0.15 MG/KG BY SUBCUTANEOUS
INJECTION.
DR HSSP; P01391; ICTX.
DR PROSITE; PS00212; SNAKE_TOXIN; 1.
DR PFAM; PF00087; toxin; 1.
KW Venom; Neurotoxin; Multigene family.
FT DISULFID 3 20
FT DISULFID 14 41
FT DISULFID 26 30
FT DISULFID 45 56
FT DISULFID 57 62
SQ SEQUENCE 71 AA: 7833 MW: 41B7B968 CRC32;
Query Match 23.1%; Score 75; DB 1; Length 71;
Best Local Similarity 42.3%; Pred. No. 9.76e-02;
Matches 11; Conservative 4; Mismatches 9; Indels 2; Gaps 2;
DB 48 VRTGVLDI-OCCSTDCCD-PPPTRKRP 71
QY 5 VQGPADICQCNCKGDCGTPSHSRQP 30

RESULT 15
ID NXL4_NAJNA STANDARD; PRT: 71 AA.
AC P25672;
DT 01-MAY-1992 (Rel. 22, Created)
DT 01-MAY-1992 (Rel. 22, Last sequence update)
DT 01-MAY-1992 (Rel. 22, Last annotation update)
DE LONG NEUROTOXIN 4 (TOXIN D).
OS Naja naja (Indian cobra).
OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Lepidosauria;
OC Squamata; Scleroglossa; Serpentes; Colubroidea; Elapidae; Elapinae;
OC Naja.
RN [1]
SEQUENCE.
RC TISSUE=VENOM;
RY MEDLINE; 82113654.
RA OHTA M., SASAKI T., HAYASHI K.;
RT "The amino acid sequence of toxin D isolated from the venom of Indian
RT cobra (Naja naja).";
RL Bioclin. Biophys. Acta 671:123-128(1981).
CC -!- MISCELLANEOUS: LD(50) IS 0.22 MG/KG BY SUBCUTANEOUS INJECTION.
DR HSSP; P01391; ICTX.
DR PROSITE; PS00212; SNAKE_TOXIN; 1.
KW Venom; Neurotoxin; Multigene family.
FT DISULFID 3 20
FT DISULFID 14 41
FT DISULFID 26 30
FT DISULFID 45 56
FT DISULFID 57 62
SQ SEQUENCE 71 AA: 7821 MW: 2C93A754 CRC32;

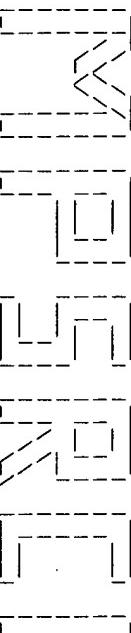
Fri Apr 28 14:30:07 2000

US-09-252-828-1.rsp

Page 8

FT	DISULFID	45	56	BY SIMILARITY.
FT	DISULFID	57	62	BY SIMILARITY.
SQ	SEQUENCE	7.1 AA;	7889 MW;	3D3463B CRC32;
Query	Match			
		23.1%;	Score 75;	DB 1; Length 71;
		Best local similarity 42.3%;	Pred. No. 9.76e-02;	Mismatches 9;
		Matches 11; Conservative 4;	Indels 2;	Gaps 2;
Db	48	VKTGVDI-OCCSTPDCD-PFPTRKRP	71	
QY	5	: ; :		
		VOGPADIC-OCCNKGDCGTPSHSRROP	30	

Search completed: Fri Apr 28 14:24:07 2000
Job time : 35 secs.


 (TM)

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MPSrch_PP protein - protein database search, using Smith-Waterman algorithm
 Run on: Fri Apr 28 14:24:25 2000; MasPar time 9.00 Seconds
 Tabular output not generated.

Title: >US-09-252-828-1

Description: Perfect Score: Sequence:

325 1 SWFPVQGPADICQCCKNGDCGTPSHSRQPHVMSQWSRSVS 41

Scoring table: PAM 150
 Gap 11
 Searched: 225878 seqs, 69334122 residues
 Post-processing: Minimum Match 0% Listing first 45 summaries

Database: sptremb12
 1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
 5:sp_invertebrate 6:sp_mammal 7:sp_mic 8:sp_organelle
 9:sp_phage 10:sp_plant 11:sp_rabbit 12:sp_unclassified
 13:sp_vertebrate 14:sp_virus

Statistics: Mean 31.925; Variance 46.387; scale 0.688

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

SUMMARIES

Scoring table: PAM 150

Gap 11

Searched: 225878 seqs, 69334122 residues

Post-processing: Minimum Match 0% Listing first 45 summaries

Database: sptremb12

1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
 5:sp_invertebrate 6:sp_mammal 7:sp_mic 8:sp_organelle
 9:sp_phage 10:sp_plant 11:sp_rabbit 12:sp_unclassified
 13:sp_vertebrate 14:sp_virus

Statistics: Mean 31.925; Variance 46.387; scale 0.688

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

ALIGNMENTS

Scoring table: PAM 150

Gap 11

Searched: 225878 seqs, 69334122 residues

Post-processing: Minimum Match 0% Listing first 45 summaries

Database: sptremb12

1:sp_archaea 2:sp_bacteria 3:sp_fungi 4:sp_human
 5:sp_invertebrate 6:sp_mammal 7:sp_mic 8:sp_organelle
 9:sp_phage 10:sp_plant 11:sp_rabbit 12:sp_unclassified
 13:sp_vertebrate 14:sp_virus

Statistics: Mean 31.925; Variance 46.387; scale 0.688

Pred. No. is the number of results predicted by chance to have a score greater than or equal to the score of the result being printed, and is derived by analysis of the total score distribution.

RESULT

1

PRELIMINARY;

PRT;

210 AA.

ID 012903;

AC 012903;

DT 01-NOV-1996 (TREMBrel. 01, Created)

DT 01-NOV-1996 (TREMBrel. 01, Last sequence update)

DT 01-NOV-1998 (TREMBrel. 08, Last annotation update)

DE POM-203.

OS Homo sapiens (Human).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;

OC Buteraria; Primates; Catarrhini; Hominidae; Homo.

RN [1]

RP SEQUENCE FROM N A.

RC TISSUE-OVARY;

RX MEDLINE; 95309900.

RA KIPENZTOK, S., OSAWA, G.A., LIANG, L.F., MODI, W.S., DEAN, J.J.,

RT "POM ZP3," a bipartite transcript derived from human ZP3 and a POM121

RT homologue,"

RL Genomics 25:354-359(1995).

DR EMBL; U10099; ARB85788.1; -

DR PFAM; PF00100; zona_Pellucida; 1.

DR SEQUENCE 210 AA; 23196 MW; A53FDB55 CRC32;

SQ

Query Match

88.3%

Score 287;

DB 4;

Length 210;

Best Local Similarity 87.8%

Matches 36;

Conservative

3;

Mismatches 2;

Indels 0;

Gaps 0;

PRED.

RESULT

2

PRELIMINARY;

PRT;

424 AA.

ID P97708;

AC 055084;

DT 01-NOV-1998 (TREMBrel. 08, Created)

DT 01-NOV-1998 (TREMBrel. 08, Last sequence update)

DT 01-NOV-1999 (TREMBrel. 12, Last annotation update)

DE ZONA_PELLUCIDA_SFMB_BINDING_PROTEIN_3_PRECURSOR

DE (ZONA_PELLUCIDA_GLYCOPROTEIN_ZP3) (ZONA_PELLUCIDA_GLYCOPROTEIN_3).

GN ZP3 OR ZP-3.

OS Rattus norvegicus (Rat).

OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Mammalia;

OC Eutheria; Rodentia; Sciurognathi; Muridae; Murinae; Mammalia;

OC Rattus.

[1]

21	72	22.2	344	11	054788	DNASE INHIBITED BY DNA	8.72e-01
22	72	22.2	745	2	053611	ISOCITRATE DEHYDROGENA	8.72e-01
23	71	21.8	368	4	016662	TRANSFORMATION-RELATED	1.31e+00
24	71	21.8	490	2	09X0C8	GLUTAMATE SYNTHASE SMA	1.31e+00
25	71	21.8	592	13	057228	7-TRANSMEMBRANE PROTE	1.31e+00
26	71	21.8	1394	5	001787	SIMILARITY TO AN AMP-B	1.31e+00
27	70	21.5	91	2	084062	FERREDOXIN.	1.95e+00
28	70	21.5	218	2	006603	HYPOTHETICAL 23.3 KD P	1.95e+00
29	70	21.5	304	4	015459	CACHA4 (FRAGMENT).	1.95e+00
30	70	21.5	317	2	050555	HYPOTHETICAL 34.6 KD P	1.95e+00
31	70	21.5	498	13	09YB1	ESNS4.	1.95e+00
32	70	21.5	626	11	070421	FRIZZLED-1.	1.95e+00
33	70	21.5	641	11	008463	FRIZZLED PROTEIN HOMOL	1.95e+00
34	70	21.5	647	4	094815	FRIZZLED-1.	1.95e+00
35	70	21.5	749	5	017768	CODED FOR BY C. ELEGAN	1.95e+00
36	70	21.5	2050	497	094247	CODED FOR BY C. ELEGAN	1.95e+00
37	70	21.5	2153	5	094246	CODED FOR BY C. ELEGAN	1.95e+00
38	69	21.2	108	2	007571	HYPOTHETICAL 11.8 KD P	2.90e+00
39	69	21.2	118	14	064789	TWO FIBERS, PROTEIN PV	2.90e+00
40	69	21.2	127	10	049217	OSMOTIN (FRAGMENT).	2.90e+00
41	69	21.2	147	14	087054	C TERMINUS OF HSV US3	2.90e+00
42	69	21.2	167	3	000341	GAG-LIKE POLYPROTEIN (2.90e+00
43	69	21.2	376	10	022013	JU51.	2.90e+00
44	69	21.2	1124	13	012883	DSRNA ADENOSINE DEAMIN	2.90e+00
45	69	21.2	1339	5	026048	BETA-1,3-D-GLUCAN BIND	2.90e+00

QY 2 WFPVQGRADICQCCNKGCGTPSHRRQP 30

RESULT 6 PRELIMINARY; PRT; 446 AA.

ID 073670 AC 073670; DT 01-AUG-1998 (TREMBrel. 07, Created) DT 01-AUG-1998 (TREMBrel. 07, Last sequence update) DT 01-NOV-1999 (TREMBrel. 12, Last annotation update)

DE OUT1 ZPC. OC Coturnix coturnix japonica (Japanese quail). OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasiabinae; Coturnix. RA [1] SEQUENCE FROM N.A.

KONO Y., TSUJI T., AOKI N., KITAJIMA K., MATUDA T.; RL Submitted (MAR-1998) to the EMBL/GenBank/DDBJ databases. EMBL; AB012606; BAA25673; 1; -.

DR PRINTS; PRO0023; ZPELUICIDA. SQ SEQUENCE 446 AA; 47521 MW; 599DCBC9 CRC32;

Query Match 38 2%; Score 124; DB 13; Length 446; Best Local Similarity 42.9%; Pred. No. 1.74e-11; Matches 12; Conservative 8; Mismatches 8; Indels 0; Gaps 0;

DB 330 TWPVPEGGRDVCSCCTGNDALAR 357 ID P79762 AC P79762; DT 01-MAY-1997 (TREMBrel. 03, Created) DT 01-NOV-1999 (TREMBrel. 03, Last sequence update) DE ZPC.

OC Gallus gallus (Chicken). OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Archosauria; Aves; Neognathae; Galliformes; Phasianidae; Phasiabinae; Gallus. RN 11) SEQUENCE FROM N.A.

RA TAKEUCHI Y., NISHIMURA K., ADACHI T., AOKI N., MATUDA T.; RT Isolation and cDNA cloning of chicken ZPC. n.; RL Submitted (Nov-1996) to the EMBL/GenBank/DDBJ databases. EMBL; D89097; BAA13760; 1; -.

DR PFAM; PF00100; zona_pellucida_1. DR PRINTS; PRO0023; ZPELUICIDA. SQ SEQUENCE 444 AA; 47556 MW; B40F1BDA CRC32;

Query Match 37 8%; Score 123; DB 13; Length 444; Best Local Similarity 42.9%; Pred. No. 2.93e-11; Matches 12; Conservative 7; Mismatches 9; Indels 0; Gaps 0;

DB 330 TWPVPEGGRDVCSCCTGNCACALR 357 ID 005478; AC 005478; DT 01-JUL-1997 (TREMBrel. 04, Created) DT 01-JUL-1997 (TREMBrel. 04, Last sequence update) DT 01-NOV-1998 (TREMBrel. 08, Last annotation update)

DE LIPR. OC Streptomyces sp. Bacteria; Fimicutes; Actinobacteria; Actinomycetales; Streptomyceinae; Streptomycetaceae; Streptomyces. RN [1] SEQUENCE FROM N.A.

RESULT 7 PRELIMINARY; PRT; 444 AA.

QY 1 SWFPVQGRADICQCCNKGCGTPSHSR 28

RESULT 7 PRELIMINARY; PRT; 444 AA.

ID 091984 AC 091984; DT 01-NOV-1996 (TREMBrel. 01, Created) DT 01-NOV-1996 (TREMBrel. 01, Last sequence update) DE ZP3.

GN Carassius auratus (Goldfish). OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Neopterygii; Teleostei; Butelostei; Ostariophsyi; Cypriniformes; Cyprinidae; Cyprininae; Carassius. RN [1] SEQUENCE FROM N.A.

RC CHANG Y., WANG S., TSAO C., HUANG F.; RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases. RN [2] SEQUENCE FROM N.A.

RP TISSUE=OPIRI; RC CHANG Y.S., WANG S.C., TSAO C.C., HUANG F.L.; RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases. DR EMBL; Z44974; CAR8838.1; -. DR EMBL; Z44975; AAB41819.1; -. DR PFAM; PF00100; zona_pellucida_1. DR PRINTS; PRO0023; ZPELUICIDA. SQ SEQUENCE 428 AA; 46651 MW; 5981E52 CRC32;

Query Match 25 2%; Score 82; DB 13; Length 428; Best Local Similarity 30.4%; Pred. No. 1.26e-02; Matches 7; Conservative 7; Mismatches 5; Indels 1; Gaps 1;

DB 379 GWLAADGNHVGCGCD-STCASP 400 ID Q92023 AC Q92023; DT 01-NOV-1996 (TREMBrel. 01, Created) DT 01-NOV-1996 (TREMBrel. 01, Last sequence update) DT 01-NOV-1998 (TREMBrel. 08, Last annotation update)

DE ZP3. GN FOR ZP3 (CLONE PCOV328).

OC Cyprinus carpio (Common carp). OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Neopterygii; Teleostei; Butelostei; Ostariophsyi; Cypriniformes; Cyprinidae; Cyprininae; Cyprinus.

RC STRAIN=M1; RX MEDLINE; 93138418. RA PEREZ C., JUARIZZ K., GARCIA-CASTELLS E., SOBERON G., SERVIN-GONZALEZ L.; RT "Cloning, characterization, and expression in Streptomyces sp. M1." of an extracellular lipase-encoding gene from Streptomyces sp. M1." RL Gene 123:109-114(1993). RN [2] SEQUENCE FROM N.A.

DE OUT1 M1. OC STRAIN=M1; RA SERVIN-GONZALEZ L.; RT Submitted (APR-1997) to the EMBL/GenBank/DDBJ databases. DR EMBL; M88351; AAB51446.1; -. DR PFAM; PF00196; GERE; 1. DR SEQUENCE 934 AA; 95200 MW; CFEECC0059 CRC32;

Query Match 26.5%; Score 86; DB 2; Length 934; Best Local Similarity 29.7%; Pred. No. 2.13e-03; Matches 11; Conservative 13; Mismatches 12; Indels 1; Gaps 1; QY 4 PVQGPADICOC-CNGDCGTPSHSRPHMSWSR 39

DB 640 SVEGPGEAACAHCDAALAGAVPGLAQPATLATWARG 676 ID 091984 PRELIMINARY; PRT; 428 AA.

QY 1 SWFPVQGRADICQCCNKGCGTPSHSR 28

RESULT 9 PRELIMINARY; PRT; 428 AA.

ID 091984 AC 091984; DT 01-NOV-1996 (TREMBrel. 01, Created) DT 01-NOV-1996 (TREMBrel. 01, Last sequence update) DE ZP3.

GN Carassius auratus (Goldfish). OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii; Neopterygii; Teleostei; Butelostei; Ostariophsyi; Cypriniformes; Cyprinidae; Cyprininae; Carassius. RN [1] SEQUENCE FROM N.A.

RC CHANG Y., WANG S., TSAO C., HUANG F.; RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases. RN [2] SEQUENCE FROM N.A.

RP TISSUE=OPIRI; RC CHANG Y.S., WANG S.C., TSAO C.C., HUANG F.L.; RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases. DR EMBL; Z44974; CAR8838.1; -. DR EMBL; Z44975; AAB41819.1; -. DR PFAM; PF00100; zona_pellucida_1. DR PRINTS; PRO0023; ZPELUICIDA. SQ SEQUENCE 428 AA; 46651 MW; 5981E52 CRC32;

Query Match 25 2%; Score 82; DB 13; Length 428; Best Local Similarity 30.4%; Pred. No. 1.26e-02; Matches 7; Conservative 7; Mismatches 5; Indels 1; Gaps 1;

DB 379 GWLAADGNHVGCGCD-STCASP 400 ID Q92023 PRELIMINARY; PRT; 422 AA.

QY 1 SWFPVQGRADICQCCNKGCGTPSHSR 28

RN [1] Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
 RP SEQUENCE FROM N.A.
 RC TISSUE=OVARY;
 RA CHANG Y.-S., WANG S.C., TSAO C.C., HUANG F.L.;
 RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
 RN [2] SEQUENCE FROM N.A.
 RP TISSUE=OVARY;
 RA CHANG Y.-S., WANG S.C., TSAO C.C., HUANG F.L.;
 RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
 DR EMBL: Z48973; CAA8837.1;
 DR EMBL: L1639; AAB4182.1;
 DR PFAM: PF00100; zona_pellucida_1.
 SQ SEQUENCE 422 AA; 46187 MW; EF15E170 CRC32;

Query Match 24.9%; Score 81; DB 13; Length 422;
 Best Local Similarity 30.6%; Pred. No. 1.96e-02; Mismatches 11; Indels 2; Gaps 2;
 Matches 11; Conservative 9; MisMatches 14; Indels 2; Gaps 2;

Db 381 GMLAAGDGNHQACGCCD-SIGG-PGVGSAAPGGYQW 414
 Qy 1 SWFPVQGPADICQCCNKGDGCGTPSHSRROPHVMSOW 36

RESULT 11 PRELIMINARY; PRT; 414 AA.
 ID 090357; AC 090357;
 DT 01-NOV-1996 (TREMBrel. 01, Created)
 DT 01-NOV-1996 (TREMBrel. 01, Last sequence update)
 DT 01-NOV-1998 (TREMBrel. 08, Last annotation update)
 DE ZONA_PELLUCIDA PROTEIN ZP3 (FRAGMENT).
 OS Cyprinus carpio (Common carp).
 OC Neopterygii; Teleostei; Euteleostei; Ostariophysi; Cypriniformes;
 OC Eukaryota; Metazoa; Craniata; vertebrata; Actinopterygii;
 OC Cyprinoidea; Cyprinidae; Cyprininae; Cyprinus.
 RN [1] Sequence FROM N.A.
 RP TISSUE=OVARY;
 RA CHANG Y., WANG S., TSAO C., HUANG F.;
 RL Submitted (MAR-1995) to the EMBL/GenBank/DDBJ databases.
 DR EMBL: Z48798; CAA8873.1; -.
 DR PFAM: PF00100; zona_pellucida_1.
 FT NON_TER 1
 SQ SEQUENCE 414 AA; 45106 MW; B919EBF0 CRC32;

Query Match 24.6%; Score 80; DB 13; Length 414;
 Best Local Similarity 30.6%; Pred. No. 3.03e-02; Mismatches 10; Indels 9; Gaps 2;
 Matches 11; Conservative 9; MisMatches 14; Indels 2; Gaps 2;

Db 373 GWTAAADGNHQACGCCD-SIGG-PGVGSAAPGGYQW 406
 Qy 1 SWFPVQGPADICQCCNKGDGCGTPSHSRROPHVMSOW 36

RESULT 12 PRELIMINARY; PRT; 419 AA.
 ID 092017; AC 092017;
 DT 01-NOV-1996 (TREMBrel. 01, Created)
 DT 01-NOV-1996 (TREMBrel. 01, Last sequence update)
 DT 01-NOV-1998 (TREMBrel. 08, Last annotation update)
 DE ZP3 GENE.
 GN ZP3.
 OS Cyprinus carpio (Common carp).
 OC Eukaryota; Metazoa; Chordata; Craniata; Vertebrata; Actinopterygii;
 OC Neopterygii; Teleostei; Euteleostei; Ostariophysi; Cypriniformes;
 OC Cyprinoidea; Cyprinidae; Cyprininae; Cyprinus.
 RN [1] Sequence FROM N.A.
 RP TISSUE=OVARY;
 RA CHANG Y., WANG S.C., TSAO C.C., HUANG F.L.;
 RL Submitted (APR-1995) to the EMBL/GenBank/DDBJ databases.
 DR EMBL: Z48972; CAA8836.1; -.
 DR PFAM: PF00100; zona_pellucida_1.
 FT NON_TER 1
 SQ SEQUENCE 424 AA; 46326 MW; F1B4AC2F CRC32;

Query Match 24.6%; Score 80; DB 13; Length 424;
 Best Local Similarity 27.8%; Pred. No. 3.03e-02; Mismatches 10; Indels 1; Gaps 1;
 Matches 11; Conservative 9; MisMatches 16; Indels 1; Gaps 1;

Db 368 GMLAAGDGNHQACGCCD-SIGG-PGVGSAAPGGYQW 402
 Qy 1 SWFPVQGPADICQCCNKGDGCGTPSHSRROPHVMSOW 36

RESULT 14 PRELIMINARY; PRT; 295 AA.
 ID 016974; AC 016974;
 DT 01-JAN-1998 (TREMBrel. 05, Created)
 DT 01-JAN-1998 (TREMBrel. 05, Last sequence update)
 DT 01-NOV-1998 (TREMBrel. 08, Last annotation update)
 DE T02B11.1 PROTEIN.
 OS Caenorhabditis elegans.
 OC Eukaryota; Metazoa; Nematoda; Secernentea; Rhabditia; Rhabditida;
 OC Rhabditina; Rhabditidae; Rhabditidae; Pelegoninae; Caenorhabditis.
 RN [1] Sequence FROM N.A.
 RP STRAIN=BRISTOL N2;
 RC MEDLINE: 9415018;
 RA WILSON R., PINSCOUGH R., ANDERSON K., BAYNES C., BERKS M.,
 RA BONFIELD J., BURTON J., CONNELL M., COSEY T., COOPER J., COULSON A.,
 RA CRAXTON M., DEAR S., DU Z., DURBIN R., FAVELLO A., FULTON L.,
 RA GARDNER A., GREEN P., HAWKINS T., HILLIER L., JETER M., JOHNSTON L.,
 RA JONES M., KERSHAW J., KIRSTEN J., LAISTER N., LATREILLE P.,
 RA LIGHTNING J., LLOYD C., McMURRAY A., MORTIMORE B., O'CALLAGHAN M.,
 RA CHANG Y.S., WANG S.C., TSAO C.C., HUANG F.L.;

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